

Guest Editor's Corner - Biotechnology Education: Is There a Need and What Is the Role of the Cooperative Extension Service?

Angela Fraser

Agricultural biotechnology is receiving an increasing amount of media coverage. One of the most recent examples was a report that genetically modified (GM) corn used in animal feed, but not yet approved for human consumption, was found in taco shells. In spite of a recall and protests from activist groups who are concerned about the effects on humans and the environment, public reaction was minimal. Why?

According to International Food Information Council (IFIC) President Sylvia Rowe, *"The vast majority of American consumers still place a great deal of confidence in the benefits of, and current regulatory climate for, agricultural biotechnology. A three-fold increase in media coverage of biotechnology and confusion in the international marketplace have raised questions with some U.S. consumers, but most remain positive and look forward to its benefits."* Most survey results support her statement. A 1999 Gallup Poll reported that slightly more than half of U.S. consumers did *not* view GM foods as a potential health hazard. Dr. Tom Hoban, Professor of Sociology and Food Science at North Carolina State University, reported in 1997 that only 16 percent of Americans rated biotechnology as a serious hazard. More than two-thirds of consumers, according to a 1999 IFIC study, say they would be willing to buy produce enhanced through biotechnology *if* it reduced pesticide use, and more than half of consumers would buy it if biotechnology improved the taste. Other studies show that support for agricultural biotechnology has been consistently high for nearly a decade.

To maintain this support, the biotechnology industry has formed a consortium of leading biotechnology companies, which have committed up to \$50 million a year for a massive pro-biotech education campaign. This pro-biotech campaign, which began in April 2000, consists of print and television ads, a Web site (<http://www.whybiotech.com>), a toll-free number (1-800-980-8660), and informational materials. The consortium believes that the more access people have to good, credible information on biotechnology, the more likely they are to support and embrace it.

I have some key questions about this initiative: Will this multi-million dollar campaign be sufficient to maintain the current level of support that Americans appear to have for biotechnology? Will it lead to "new" supporters of biotechnology? Most importantly, will this consortium, which has a vested interest in ensuring that biotechnology is accepted, provide the public with balanced information, discussing both the benefits and the potential risks? Surveys in Europe indicate that a campaign conducted by the industry itself may be not sufficient. Other sources of information will be needed to educate the public about biotechnology.

In Europe, environmental, consumer, and farmer groups are viewed by the public as most likely to tell the truth about biotechnology. National governments and industry are viewed as the least trustworthy. In the United States, public opinion polling data indicate that there has been a sharp decline of public faith in government, business, and labor since the mid-1960's. However, a study by Miller and Hoban in 1998 showed that professional organizations, university scientists, and government were viewed as truthful sources of biotechnology information. The food industry was not. Consequently, universities may be a logical choice to take the lead in biotechnology education, with the Cooperative Extension Service leading the effort.

Historically, the Cooperative Extension Service has been the outreach arm of the land-grant university system. Most of Extension's outreach is through informal education. Extension is well positioned to spearhead biotechnology education, not only because of its presence in most U.S. counties, but also because of its mission. The Cooperative Extension Service was founded on the premise of aiding the diffusion, among citizens, of useful and practical information on subjects such as agriculture and home economics. Extension is prepared and ready, but is there a need? Why spend time and resources on what survey data shows might be a non-issue to Americans?

Some signs that the public may be wary of GM food appear to be driving political leaders to take action to separate GM foods from others in the interest of consumer information and choice. U.S. Congressman Dennis J. Kucinich of Ohio introduced a bill to the House of Representatives, which would require labeling not only of GM foods but also of products derived from them, such as oil. Similar labeling rules have also been proposed in California. Whole Foods Market, the largest natural food retailer in the United States, labels its house brand with the statement "no GM ingredients." Whole Foods Market's reaction is similar to the position taken by Gerber Products, Frito-Lay, and McDonalds, which have all made a commitment not to use GM foods because of concern about public opinion. While the controversy in the United States is quite limited, some proponents of biotechnology are fearful that eventually there could be spillover from Europe. In Europe, consumer response to biotechnology is much more adversarial than it is in the United States. Nearly half of British and German consumers are *not* supportive of biotechnology.

Universities must be firmly in the middle on this issue. The university's role is to tell the truth about biotechnology, not to promote biotechnology. Thus, it is the responsibility of the university system to provide the public with information about the benefits and the potential risks of *any* technology that can improve lives. I personally believe that the benefits (better tasting and more nutritious foods, increased crop yield, reduced pesticide use) far outweigh the risks (the unknown effects on the environment, allergenicity, and human food safety). However, my role is to educate and not to persuade. University educators *must* remember to present both sides.

Specifically within the context of the Cooperative Extension Service, biotechnology not only affects agriculture but it also affects consumers, both youth and adults. Extension needs to integrate biotechnology education into all of its program areas -- family and consumer sciences, agriculture, and 4-H. The bottom line is that consumers will ultimately decide whether or not they want GM foods. Extension can be there to help them make informed decisions.

Author

Angela Fraser, Ph.D., Assistant Professor/Food Safety Education Specialist Department of 4-H Youth Development and Family & Consumer Sciences, NC State University, angela_fraser@ncsu.edu.

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