

## **Engaging Consumers about the Nuances of Agricultural Technologies**

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While most consumers are detached from the food system, there is a renewed interest in agricultural production practices. Consumer interest in production practices has led food companies to source differentiated commodities and display labels on packaging that communicate various production practices associated with a product. A food system that seeks to satisfy the desires of diverse consumer segments has changed the landscape for every actor in the food value chain, from input supplier to point of sale, and the way in which we must discuss commodities historically used as classic examples of homogeneous goods.

Some discussion around agricultural production practices is characterized by misinformation and even disinformation. This presents an opportunity to educate consumers about the nuances of agricultural production decisions through extension efforts. To this end, the Genetic Literacy Project launched a series called *GMO: Beyond the Science* in an effort to decrease information failures associated with genetically engineered (GE) food. The series, which was funded by the Center for Food Integrity, hoped to stimulate public discussion on genetic engineering through nuanced coverage of regulation, food security, sustainability, and consumer confusion.

A more nuanced discussion around issues like genetic engineering is necessary because simply providing information about safety from scientific organizations is not sufficient to win public trust. This deficit model assumes that consumer reluctance to accept GE persists because of a lack of information about safety. However, as recently pointed out by a National Academies of Sciences, Engineering, and Medicine (2017) report, “People rarely make decisions based only on scientific information...” Evidence confirms this point. While more than 280 scientific and technical institutions support the safety of GE food (Norero, 2017), beliefs about its safety of in the United States are fairly uniformly divided between safe, unsafe, and not sure (McFadden and Lusk 2015, 2016). Moreover, Funk and Rainie (2015) found that only 37% of U.S. consumers

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believe GE food to be safe to eat, compared to 88% of scientist members of the American Association for the Advancement of Science.

My contribution to *GMO: Beyond the Science* addressed the complex views of consumers regarding GE foods (McFadden, 2017). My research has indicated that the public has a widely distorted perception of agricultural production and what genetic engineering entails. It is possible these misperceptions can help explain why some consumers remain so reluctant to accept GE foods.

Some of the highlights from my contribution were:

- Consumers have misconceptions about genetics and planting GE varieties. Survey results showed that 34% of respondents thought that GE tomatoes contained altered genes and that non-GE tomatoes did not, and 32% thought fresh vegetables did not contain DNA at all. In addition, respondents thought that more than 50% of wheat acreage was planted to GE varieties, when in fact there is no GE wheat acreage (McFadden and Lusk, 2016).
- There are many reasons for developing GE foods, and consumers do not uniformly desire these reasons. Keeping crop production in the United States and lower food prices were significantly more desirable than saving farmers time or breeding herbicide-tolerant crops (Lusk, McFadden, and Rickard, 2015).
- Simple opinion polls are an unreliable signal for informing public policy about GE food. While 84% of consumers prefer mandatory labels for GE food, 80% also prefer labels for food containing DNA (McFadden and Lusk, 2016).
- Providing information from scientific organizations about the safety of GE food can backfire. Respondents who had believed GE food to be unsafe prior to receiving information were equally likely to think GE food was *less* safe or to think GE food was safer after receiving information (McFadden and Lusk, 2015).

We hoped that *GMO: Beyond the Science* would be informative to industry while at the same time pushing consumers to think critically about the false dichotomy often applied to discussions about the safety and value of GE foods. My contribution has been read 11,213 times on the Genetic Literacy Project website. The summary posted by Genetic Literacy Project on Facebook has reached 27,118 people; been clicked on 895 times; and received 688 reactions, comments, and shares.

Current and future consumer involvement in the food system presents an opportunity for consumer extension. Consumers have the purchasing power to shape production practices, and more education is needed so consumers can better understand the tradeoffs between various production practices. However, it is becoming increasingly apparent that education alone is not sufficient. Extension efforts should focus on innovative ways to engage consumers rather than simply providing information.

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