

Giving GM crops fair shot: Cultural cognition theory opens consumer minds

Despite decades of globally expanding use of genetically modified (GM) crops, broad public acceptance still eludes this technology. The history of the dialogue behind these crops, however, reveals what we can learn from communications science.

Over the past 20 to 30 years, the world has changed considerably, with populations becoming aware of the risks in their everyday lives. Consequently, people in general have grown more averse to risk. With health scares in food and agriculture, like mad-cow disease in the United Kingdom and melamine in infant formula in China, people around the world have started losing trust in the people and organizations that regulate the risks.

The evolution of how people deal with risk is a popular social concept—dubbed the “risk society” by German sociologist Ulrich Beck—that has resulted in an environment today where new technologies are scrutinized more, and GM crops have been embroiled in controversy from their introduction. Such controversial subject matter requires specific handling from a communications standpoint. The ongoing controversy shows how this has largely failed.

Following failed philosophies

In many cases, efforts to communicate about GM crops have followed a linear, educational, one-way delivery, focused mainly on technical elements of the science. Likewise, these efforts failed to discuss, or even acknowledge, broader interpretations of risk, such as psychological and social factors. Many of the messages focused on benefits to farmers and informing a “rational” debate. In the 1970s, however, Nobel laureate and Israeli-American psychologist Daniel Kahneman and his late colleague Amos Tversky showed that decision making about risk is neither purely rational nor purely “irrational.” Still, many biotechnology organizations employ a strategic and tactical mandate predicated on only “rational” thinking.

Some experts know that information cannot be the sole source of communication about GM crops to really get across the point. Recently, Paul Teng, chairman of the International Service for the Acquisition of Agri-biotech Applications (ISAAA), said: “Communication is key for GM product acceptance, but just sharing information alone is not sufficient. Infusing values into communication messages will contribute greatly to making GM products part of everyday life.”

Still, some groups try to get across those messages with techniques that are known to be flawed. For instance, creating “independent” third-party organizations to deliver the message—a common technique among agencies retained to advocate for GM crops—has been widely questioned at high levels. In a 2013 speech, for example, Margaret Chan, director-general of the World Health Organization, provided insight into the tactics of large regulated industries—big food, big soda and big alcohol—and said: “They include front groups, lobbies, promises of self-regulation, lawsuits and industry-funded research that confuses the evidence and keeps the public in doubt.”

Likewise, the use of so-called credible experts, largely appointed for their technical expertise, has lost

much of its value, yet it remains at the top of the list of approaches to communications about GM crops. Even worse, some groups have tried putting a modern twist on the tactics of big tobacco in 1950s and '60s, such as creating fake online grassroots groups and identities extolling the virtues of GM crops. It's hard to imagine what could do more harm to earning trust.

Even facts may fail

Experts, including regulators, view risk as measurable hazard, the product of probability and magnitude. People facing the risks, however, tend to focus more on what concerns them, rather than the “technical” hazard itself. Peter Sandman, one of risk communication’s pioneering practitioners, calls this concern “outrage,” and it’s a powerful force that can escalate if not addressed. Moreover, outrage might even increase in the face of sound technical data, because the higher concerns are not addressed and these facts may conflict with deeply held cultural views and commitments.

Industry often shuns this higher level of the risk debate. Instead, industry tends to reframe the issues in terms of technical expertise and experience, where it is undoubtedly most comfortable. Simply put, facts about the risk are not what those with concerns need to hear to address their reservations.

Nonetheless, communications around GM crops continue to focus on the facts. The communicators have assumed that the public just needed more information, and that a better-informed public would be more inclined to accept biotechnology for what it is. Both research and experience, however, fail to support this so-called “deficit model” of communication. Although the first academic papers that questioned the “knowledge gap” hypothesis were published in 1996, only recently have the critics of the deficit model been gaining traction.

Seeking solutions

Changing deficit-model approaches will require a better understanding of why people oppose the use of genetically modified organisms (GMOs) from the perspective of risk and trust. Public engagement—as a concerted exercise in understanding respect (based on shared values and interests), uncertainties and, critically, vulnerabilities—will be essential.

Moving forward will require authentic communication that does not rely on public-relations strategies, such as propaganda and third-party techniques. It will require products that consumers personally benefit from and can control their exposure to. Furthermore, industry must make more concerted efforts to be trustworthy, and a major part of this will be to increase the perceptions of shared values and benevolence. Similarly, regulators must do far more to safeguard the public trust, especially in complex cases that often hinge around degrees of uncertainty.

Many factors conspire to make the acceptance of GM crops difficult. Nonetheless, communicators in biotechnology, especially in North America and Australia, now accept the need to address the cultural values that come into play in communicating about GMOs. For example, GMO Answers—a U.S. industry initiative—is a first effort to be responsive to viewpoints in a direct and candid way. As this initiative is duplicated in other countries, cultural aspects of the communication process will need to be assimilated

into the process. This could well be a first step toward the development of a cultural cognition theory of risk communication for GM crops that aims to deeply assimilate cultural values into a process not aimed at acceptance, but aimed at putting people in the best possible position to make a decision consistent with their values and beliefs.

Science communicators should continually monitor social-science research to gain further insights into the groups with which we are communicating. As a result, we will learn to understand existing and new concerns—not just about GMOs, but also about all areas of innovation. When there are perceptions of risk, we should use the science of communication in the communication of science. If we do, some of the glaring problems with GMO communication might be addressed.

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For more background on the Genetic Literacy Project, read [GLP](#) on Wikipedia.