OPINION

Technology and public understanding of science in the US: the national bioengineered food disclosure standard of 2016

John Williams

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ABSTRACT

Despite the fact that GM foods have been commercially accessible in the US for more than 20 years, few people in the country are aware of them. The National Bioengineered Food Disclosure Standard, which went into effect, will force food producers to report the use of GM ingredients in their goods. Public perception of GM technology may be impacted by how food makers inform customers about GM components; we investigate how food producers describe GM substances in their food items on Smart Label, a platform for digital disclosure created by the Grocery Manufacturers Association. We examine how these characterizations affect people's perceptions of the hazards and advantages of GM food. Overall, we discover that different descriptions of GM substances have little impact on how people perceive their dangers and advantages. According to post hoc analysis, understanding of GM technology and moral assessment of it are important predictors of perceived dangers and benefits. The effects of GM technology on public communication are examined.

Key Words: *Biotechnology; Genetically modified food; GM disclosure; National bioengineered food disclosure standard*

INTRODUCTION

GM crop types have been planted in the US, making up approximately of the world's GM crop yield, making it the gre--atest producer of GM agricultural goods. According to recent data from the US Department of Agriculture, Genetically Modified (GM) crops make up maize, soy, canola, and of sugar beets farmed in the country. The Grocery Manufacturers Association has estimated that per cent of the food consumed in the United States contains ingredients derived from a GM crop because these GM crops are used to make oils, flours, starches, thickeners, sweeteners, and other essential ingredients used in the food industry. Since the Flavr Savr tomato's release, GM foods have been available for purchase in the US for more than 20 years. Since then, farmers have quickly accepted GM crops, making them the fastest-adopted crop technology in the history of modern agriculture. In the US, GM cultivars made up more than half of the soybean and corn crops grown over the years respectively. As a result, as early as, the Cornell University-based Genetically Engineered Organisms Public Issues Education (GEO-PIE) project claimed that "current estimates imply that of goods in the US markets include at least a tiny proportion of some crop.

Even though GM foods are widely present in the US food system and offer several benefits that have been shown, polls of public knowledge of GM foods have repeatedly revealed that most Americans know very little about them. For instance, according to research by Hallman, Cuite, and Morin, more than half of Americans believe they know nothing or very little about foods that have been genetically modified, and roughly a quarter of consumers claim they have never heard of GMOs. Furthermore, research reveals that just of Americans are aware that these goods are now available in supermarkets, and the majority of these shoppers are unsure exactly which GM food products are available for purchase. For instance, more than half of those who think GM foods are sold in US supermarkets are misinformed about the availability of GM tomatoes, wheat, and poultry, while less than half are aware that GM soy products are offered. According to the Hallman, Cuite, and Morin study, just around a quarter of Americans think they have ever eaten anything with GM components. According to statistics from the Pew Research Centre, just of Americans believe that GM components are present in the majority of the food they consume, and almost half say that little to no GM ingredients are present in the food they consume.

Editorial Office, Applied Food And Science Journal, Windsor, United Kingdom

Correspondence: John Williams, Editorial Office, Applied Food Science, Windsor, United Kingdom, E-mail:Foodscitech@scholarcentral.org

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A law that would require GMO labelling at the federal level was filed in June, although it would also give businesses the option of how those components were disclosed. The "National Bioengineered Food Disclosure Standard" law was swiftly approved by the Senate and House of Representatives, and in July, President Obama signed it.

CONCLUSION

Consumer exposure to knowledge concerning GM technology is anticipated to come mostly via food labels, which may have an impact on public opinion. As food producers are probably the main source through which consumers are exposed to GM information, Study 1 was created to investigate how food manufacturers on the Smart Label website communicate about GM ingredients to consumers. According to our research, the main characteristics of GM foods are their widespread use, safety, and increased agricultural yields. Additionally, we discovered that GM foods were referred to using a variety of phrases, including "genetically modified" and "biotechnology.

"We combined data across conditions to investigate whether three independent variables (morality assessment, self-report knowledge, and objective knowledge) predicted perceived risks and benefits of GM foods given that term and description variations did not affect how the general public perceived the risks and benefits of GM foods. Those who support GM technology often believe that GM foods are safer and better for the environment and human health. Higher self-reported knowledge individuals consider GM foods to be both riskier and more advantageous. Those with a more in-depth understanding of GM technology believe that GM foods are less harmful to human health and the environment. The deficit model of science communication is the use of one-way communication from experts to lay audiences with the ultimate objective of closing a knowledge gap in lay audiences of a scientific issue. Given that understanding of GM food and GM technology, in general, is quite poor in the United States, the deficit model is expected to be widely employed to communicate with consumers about GM food. Given rules like the National Bioengineered Food Disclosure Standard, using food labels to tell consumers about GM technology is becoming more and more frequent. This may be the main method that consumers have exposed to GM information in the future.