

*Labelling Genetically Engineered Foods*

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*Food Sovereignty or Trade Obstruction?*

*Labelling of Genetically Engineered Foods*

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*Abstract:*

This paper examines labelling of Genetically Engineered Foods (GEFs) in the context of: trade issues, the food sovereignty movement, and consumer research. Labelling is explored as a middle ground between food sovereignty and the anti-labelling positions of GEF-producing countries. Surveys around the world concur that the majority of consumers want GEFs labelled. Psychological and neuroscience research implies that when we lack experience with a particular situation even experts view risks high where benefits are low and vice versa. Without direct consumer benefits, consumers will remain skeptical of GEFs and risk communication campaigns will do little to change consumers' feelings.

**Keywords:** consumer risk perceptions, food sovereignty, genetically engineered foods, labelling, trade

**Introduction**

The purpose of this paper is to examine the labelling of Genetically Engineered Foods (GEFs) in the context of three major trends: trade issues, the food sovereignty movement, and current developments in consumer research. Labelling at first glance would appear to be a fairly innocuous topic, yet it has been rejected both by populist anti-GEFs groups and pro-GEFs agri-business interests. The motivations behind trade negotiations and the food sovereignty movement reveal why labelling has become a flashpoint.

Globally, consumers have made it clear what they want. Surveys around the world concur that the overwhelming majority of consumers want labels identifying foods that are genetically

engineered. Populists interpret this as evidence that consumers do not want GEFs and many advocate banning GEFs. Business interests claim that labelling will scare consumers and deter them from buying GEFs. Yet consumer research in the role of Cassandra does not tend to support either of these two viewpoints.

### **Labelling Standards and Trade Issues**

Thirty-nine countries with a little over 40 percent of the world's population have mandatory labelling legislation in effect.<sup>1</sup> Another four countries (India, Indonesia, Israel and Malaysia) with nearly 21 percent of the world's population have mandatory labelling legislation that has not yet been implemented. Several other countries have mandatory labelling legislation being proposed and discussed (The Campaign, 2004). Many poor countries, lacking infrastructure to implement mandatory labelling have proposed or enacted bans on GEFs. Indeed, GEFs in food aid has become a very controversial issue in Africa and South America. The main opponent to labelling is the government of the USA, also the largest producer of GEFs.

The main GEF crops are corn and soybeans, largely used in animal feeds and in highly processed foods. Corn and soybeans and their derivatives are globally traded products. As with any traded commodity, the issue of standards arises. Codex Alimentarius (Codex), a United Nations (UN) organization, is charged with establishing international standards. A Codex working group has grappled unsuccessfully for years to develop international labelling standards for GEFs. Nor is there agreement on wording or format of labels or threshold levels (Codex Committee on Food Labelling, 2004). Canada (the hosting nation) and the US support labelling only on health or

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<sup>1</sup> Mainland China and the European Union represent the majority of population, with the rest being: Australia, New Zealand, Brazil, Japan, Russia, Saudi Arabia, South Korea, Switzerland, Taiwan, Thailand, Turkey and Vietnam.

safety grounds (US Draft Position, 2004), while many of the other members support consumer choice and ethics as additional grounds for labelling.

The importance of standards developed by Codex rests in the fact that they are enforced by another UN organization, the World Trade Organization (WTO). Standards and legislation that stipulate labelling on health and safety grounds come under the Sanitary and Phytosanitary (SPS) Agreement and require risk assessment. Violations of the SPS Agreement can be used by nations as the basis for a complaint to the WTO Appellate Body and if upheld, sanctions are imposed. The US position is to negotiate for international labeling standards based only on health and safety considerations and then use these Codex standards to overturn mandatory labelling policies in the EU and elsewhere. In contrast, Codex standards that permit labelling based on consumer information or ethical/religious concerns would fall under the WTO Agreement on Technical Barriers to Trade (TBT). If Codex standards fell under TBT, this would reduce the likelihood the US could successfully challenge the EU's mandatory labelling legislation in the WTO.<sup>2</sup> The WTO does not require common international standards nor does it require health and safety standards (Harlow, 2004). However it does require that national standards are not discriminatory and does enforce Codex international standards. Because Codex works by forming a consensus and there is no arbitrator, there is no incentive for either side to budge. Any Codex agreement on GEFs would serve to either to undermine or to validate current labelling legislation.

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<sup>2</sup> Without Codex Standards mandatory labelling could still be challenged under the TBT Agreement. Sheldon (2004) speculates that labelling could be justified in terms of consumer information and that the focus would be on a labelling that minimizes trade distortions.

The loss of valuable EU and East Asian trade revenues drives the US opposition to mandatory labelling. Between 1995 and 2002 US exports to the EU of corn fell by 99 percent and soybeans exports fell by 44 percent (Sheldon, 2004). Schmitz, Schmitz and Moss (2004) calculate that the U.S. lost between \$48 and \$78 million dollars in corn sales to Japan alone due to StarLink corn turning up in products designated for human consumption.<sup>3</sup>

The US anti-labelling position aims to reopen these markets. Ironically, the US will be implementing legislation that, if adopted internationally, could undermine their anti-labelling GEF stance. On September 30, 2004 country of origin labelling (COOL) for agricultural products will be implemented domestically (American Corn Growers Association, 2003). If such labeling spreads internationally, COOL could become a proxy for identifying GEFs since between 93 and 94 percent of the world's hectares of GEFs are grown in the USA, Argentina and Canada (James, 2003; Pew, 2003; US Embassy 2003).

Tothova and Oehmke (2004) find that pro- and anti-labelling trading blocs are forming around the US and EU. Their assessment is that while this may affect trade it does not constitute illegal trade barriers and that each side can argue that their position serves the best interests of their citizens. However, Thornsbury and Fairchild (2004) warn, "If consumer preferences become a recognized force in evaluation international trade policies, then motivations arise to influence those preferences." (p7) And Tothova and Oehmke (2004) predict the big losers will be the developing countries that are caught in the middle. These countries depend on agriculture as important sources of income domestically and to generate export earnings.

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<sup>3</sup> StarLink was approved for animal feed only and seed bags were labelled as such. However, StarLink corn was not segregated from corn designated for human consumption resulting in food recalls and a decrease in U.S. corn prices.

### **Food Sovereignty Movement**

Via Campesina, a populist organization based in Honduras with members from about 100 NGOs around the world, first coined the term “food sovereignty.” They presented the concept at the 1996 World Food Summit in Rome as an alternative to the neoliberal policies they viewed as dominating the international forum. Food sovereignty extends beyond food security in that it emphasizes the right of nations to define their own agricultural and food policy. Their focus is on local production, consumer choice, the right to farm, prices that cover production costs, the right to protect against food dumping by a third party, and fair trade. They blame trade agreements and the policies of the WTO, IMF and World Bank for policies that they feel support agribusiness at the expense of farmers, the world’s poor, and natural, genetic and cultural resources (Via Campesina, 2003).

As a measure of the popularity of the food sovereignty movement, the American Corn Growers Association (ACGA), not exactly a grassroots peasant organization, has called for a renegotiation of the North American Free Trade Agreement (NAFTA) to include principles of food sovereignty. ACGA cites lower prices to US farmers post NAFTA and also blames NAFTA for driving three million Mexican farmers out of business. ACGA has joined several Mexican and US organizations, representing a total of 700,000 members, in calling for renegotiation of NAFTA (American Corn Growers Association, 2004).

Food sovereignty might be considered a motivation for labelling GEFs, however, the food sovereignty movement has a specific agenda with respect to GEFs. People's Food Sovereignty

(PFS) an agricultural trade network, that includes Via Campesina among its many members, propose a plan of action in their declaration on people's food sovereignty. GEFs figure among the many issues in their declaration and their stance is that the production and trade of GEFs should be *banned*, that GEFs should not be used as food aid, and that agribusiness corporations should be "exposed and opposed" for introducing GEF crop varieties (People's Food Sovereignty, 2004). Since the food sovereignty movement supports banning GEFs mandatory labelling represents a middle ground between them and governments of GEF producing nations.

### **Current Research on Consumer Risk Perceptions**

#### *Advances in theory*

Current research in psychology and cognitive neuroscience reveals some theories that might explain the behavior of those who are pro- or anti-GEFs. In a review on the current state of risk analysis research, Slovic, Finucane, Peters and MacGregor (2004) conclude that research reveals that feelings are essential to rational action. As we experience things, we associate them with positive and negative feelings. These become markers that we associate with outcome images and these markers guide and even enhance our decision-making. Analytical thought simply cannot work at the same speed as the desire to avoid pain or obtain pleasure. Thus, feelings or affect are the primary way humans evaluate risk, providing a quick and easy ways of assessing situations. From an evolutionary point of view, speed and efficiency in decision-making is desirable and potentially life-saving. Thus, any two year old knows that sweet foods are good and falling is bad and therefore will seek the former and avoid the latter when immediately presented with these options. However, what that two year old lacks, but gains with age and

experience, is how to live beyond the moment, how to ensure that sweet foods become part of one's diet and to engender circumstances that make falling unlikely.

While risks and benefits often travel as companions, researchers are finding that they are negatively associated in our minds. Thus, how we feel about things drives what they think of them. If our feelings are positive, we tend to judge the risks to be low and benefits high, and conversely if we have negative feelings, we judge the risks to be high and the benefits low.

Scientists and professionals are not immune; experiments with toxicologists (Slovic et al. 1997) and stock analysts (Ganzach, 2001) show that experts consistently perceived risks and benefits to move inversely and that these perceptions were driven by feelings not fact. Based on this research, one would predict that those who see GEFs as potentially beneficial would perceive the risks to be low and those who view GEFs as having little benefit would perceive the risks to be high.

The implications for consumer education are that feelings or affect influence how we view information. Further, affect appears to influence the degree to which we remember information. In experiments with professionals, Slovic et al (2000) and Yamagishi (1997) found much stronger responses to the same data presented as frequencies than as percentages. Hendickx et al (1989), Sanfey and Hastie (1998) and Pennington and Hastie (1993) found that information recall was more accurate when presented with imagery and anecdotes than when presented with statistics or charts. The irony is that science is better understood by both scientist and nonscientist alike when it is relayed in story form.

However, Slovic et al. (2004) point to two ways that feelings can misguide decision-making: when our feelings are deliberately manipulated (such as with advertising) and when we are trying to assess decisions beyond our experiences. In the former, the story is told in such a way as to influence our perceptions and decision-making. For the latter case we simply do not have the experience and the associated feelings to guide our decision-making accurately. In recognizing the role emotions play in risk assessment and behavior, and ways in which they can fail, Slovic et al (2004) call for the need to integrate feelings into risk assessment. Acknowledging the difficulties of doing this, they point to the precautionary principle as one mechanism for integrating affect and analysis into rational risk assessment.

The role of feelings in guiding our perceptions is further complicated in the case of GEFs by differences in perceptions about what is a fact. Uncertainty is a part of scientific assessment but law requires facts to be immutable. Harlow (2004) addresses institutional failures in assessing risk in trade disputes, focusing on the lack of a transparent and consistent process within the WTO about how science and uncertainty are used and understood. There are fundamental differences in understanding of what is a fact in legal terms and what is a fact within science. The former is certain, while the latter depends on the current state of (ever-changing) scientific knowledge as well as some degree of uncertainty due to randomness and measurement error. "Currently, panelists [adjudicating trade disputes] generally lack the competence to evaluate the scientific evidence presented and make objective assessment of the facts of the case.(p445)" The implication is that legal disputes involving science are bound to be complicated because they are based on the assumption that scientific fact is certain and not changing.

*Findings regarding GEFs*

How does the average citizen respond to the polar positions regarding GEFs? When there are differences in interpretation, policy analysts suggest it is rational to allow individuals to make their own choice (Golan et al 2000; Hadden 1986). Thus, the widespread consumer support for labelling in polls (see for example Brady and Brady, 2003; Harrison and Mclennon, 2004) is a predictable response to conflicting information and merely reflects the desire of individuals to have the option of making their own decision.

Not only do consumer polls indicate support for labelling, fifty-six percent of corn growers polled by the American Corn Growers Association in 2001 supported labelling GMO corn varieties. These growers may feel it is in their economic self-interest to preserve their markets by giving consumers what they want. Indeed, *Science* (2004) explained Monsanto's recent decision to withdraw release of GMO wheat by citing a lack of consumer benefits and that wheat is predominantly a human food (unlike corn and soybeans). Monsanto decided not to release herbicide resistant wheat after facing resistance by the Canadian Wheat Board and the US Wheat Association, who were concerned about export losses and limited benefits to wheat producers (Reuters, 2004).

Consumers appear to lack enthusiasm for GEFs primarily because GEFs lack any direct benefits for consumers. Consistent with the predictions of Slovic et al. (1997) and Ganzach (2001) that people perceive high risks where benefits are low, Sheldon (2004) indicates that the lack of consumer benefits heighten consumers' concerns about GEFs. Gaskell et al (2004) found that benefits dominate consumers' perceptions and the absence of benefits was the basis for consumer

rejection of GEFs in Europe. Moon and Balasubramanian (2003) linked US and UK consumers' willingness to pay 10 to 12 and 19 to 35 percent more, respectively, for non-GEF breakfast cereal to lack of consumer benefits. An implication of their work is that focusing on risk communication rather than identifying consumer benefits will likely fail to alter consumers' perception of risks.

Experiments by Frewer, Scholderer and Bredahl (2003) with 1,400 consumers in Denmark, Germany, Italy and the UK confirm that expert risk communication is unlikely to change people's attitudes towards GEFs. Focusing on people who did not have strong opinions about GEFs, they found neither information provision, nor the source of information, changed people's attitudes. Rather it was attitudes towards GEFs that drove perceptions of risk as well as well as the extent to which they trusted the information source. Their results imply that risk communication education will do little to change consumers' attitudes towards GEFs. They propose that in order for information to have an impact on attitudes it must respond to consumer concerns. For example, if consumers are concerned for example about the effect of GEFs on small farmers, and the risk communicator ignores this because she does not think it relevant, consumers may return the favor by ignoring the information provided because it does not address their concerns. Frewer, Scholdere and Bredahl suggest that effective risk communication strategies are ones that are oriented to consumers' concerns, not those driven by experts' assessments of what people should know.

## **Conclusions**

Current psychological and neuroscience research implies that much of our risk perceptions are driven by feelings. Feelings serve as markers to allow us to process information efficiently. However, when we lack experience to assist our decision-making, feelings still play a role. Indeed experiments show that even scientists and professionals are not immune to the effects of affect, judging risks to be high when benefits are low and vice versa.

Current research predicts that without direct consumer benefits, consumers will continue to remain skeptical of GEFs. Further, risk communication campaigns will do little to change consumers feelings. It is likely therefore that consumers will continue to desire labels. Whether they actually read the labels or act on them is another matter. The labels may serve simple to provide consumers with the option to choose, which tends to reduce perceptions of risk (Zepeda, Douthitt, and You, 2003).

Trade losses by the largest GEF producer, the US, are blamed on the lack of labelling. Indeed, the majority of corn farmers are calling for labelling to preserve their markets and to facilitate trade. Had there been a labelling system in the US and Canada, farmer fear over loss of markets and consequent resistance to the release of GE wheat might not have been as strong. It is the *failure* to label appears to be what is obstructing trade. At the other end of the spectrum, some might invoke food sovereignty as a basis for labelling, however, the food sovereignty movement calls for a ban on GEFs. Thus labelling represents a middle ground between food sovereignty and the anti-labelling positions of GEF-producing countries. As with many epitaphs, those thrown at labelling appear to be unfounded. It is neither a policy goal of the food sovereignty movement nor trade obstruction.

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