

Innovation, Information Assymetry, and GMO Lemons



Proposition 37, the Mandatory Labeling of Genetically Engineered Food Initiative, is on the November ballot here in California and the outcome will shape the path of innovation in food and agriculture for decades to come.

If approved, Prop 37 will require labeling on raw or processed food offered for sale to consumers if the food is made from plants or animals with genetic material changed in specified ways, and it will prohibit labeling or advertising such food as "natural."¹

While this is about letting people know what they're eating, there's also a larger issue lurking in the background. If Proposition 37 passes, it opens the door to a range of innovations in the quality of food available. If it fails, innovation will continue its trajectory of industrial science in support of industrial food.

There is a simple reason at work here that lies at the foundation of modern economic theory. It explains how Prop 37 provides the very information on which innovations in food quality depend and why large corporations want to keep it private.²

In 1970, economist George Akerlof published an article in the *Quarterly Journal of Economics* entitled "The Market for Lemons."³ It would become one of the most influential papers in modern economic theory and, for it, he would win the Nobel Prize in 2001 (with Michael Spence and Joseph Stiglitz).

Professor Akerlof's article described how "information asymmetry" shaped the quality of goods in markets. Professor Akerlof showed that, when sellers had more knowledge of their offerings than buyers, bad quality products or services would eventually drive out the good.

His famous example is the used-car market, where buyers can't distinguish between bad (lemons) and good (cherries) cars until it's too late. As a result, to offset the probability of driving off with a lemon, they reduce the amount they're willing to pay for a car. Since this reduced price is less than what good cars are worth (but perfectly acceptable for those selling lemons), people stop selling good cars and the market fills with lemons.

As Akerlof explained:

"There may be potential buyers of good quality products and there may be potential sellers of such products in the appropriate price range; however, the presence of people who wish to pawn bad wares as good wares tends to drive out the legitimate business. The cost of dishonesty, therefore, lies not only in the amount by which the purchaser is cheated; the cost also must include the loss incurred from driving legitimate business out of existence." (Akerlof, p 495)

The nature of innovation turns on these information asymmetries in the market. When buyers can't distinguish between good and bad cars, between genetically modified organism (GMO) and non-GMO food, or between any other means by which consumers might value goods, innovations that increase those qualities of products go unrewarded while investments that reduce those qualities in pursuit of price or profitability get rewarded. Even when there are customers in the market who want those qualities and are willing to pay more for them.

Corporations have good reason to fear the loss of their information asymmetries.

The recent publicity of pink slime, the meat additive, led to an 80% loss of its business within three months; leaked videos of animal cruelty forced rapid disavowals by Target, McDonalds, In-n-Out and others; the exploitive working conditions of contract factories blemished Apple's brand (and Nike's before them); and the sugary drink bans in schools and in New York city are spreading across the country.

There is much to modern industrial agriculture and the foods it produces that consumers may not want to support. The GMO seeds and their accompanying pesticides are certainly one element, but also the cruelty inherent in factory-raised animals, the technologies and chemicals associated with industrial food processing, and the ubiquitous use of pharmaceuticals and growth hormones in the meat and dairy industry.

As Michael Pollan wrote in ([Vote for the Dinner Party](#)):

"I received a panicky phone call from someone in the food industry, a buyer for one of the big food-service companies. After venting about the 'irrationality' of the American consumer, he then demanded to know: 'who's going to be hit next? It could be anyone of us.'"

Behind this fear, Pollan explains, is that "a label on genetically modified food is so terrifying: we (the consumers) might react "irrationally" and decline to buy it."

The organic label has created its own set of information assymetries. [Corporate influence in organics](#), has dramatically increased the number of nonorganic materials approved for organic foods. Initially made up of 77 things that, like baking soda, were nonorganic but essential to making organic bread has grown to more than 250 nonorganic substances.

Whether you're buying used cars, organic bread, or GMO-based breakfast cereal, if you don't know what you're buying, you'll soon be buying lemons. Only when we can distinguish between the good and the bad - on our terms - will we open the way for sustaining innovations in agriculture, food, and nutrition.

(this post first appeared Thursday, November 1, 2012 on [The Hargadon Files](#), follow the [link](#) for the original)

Footnotes:

1 In addition, there is an exemption from this requirement for foods that are "certified organic; unintentionally produced with genetically engineered material; made from animals fed or injected with genetically engineered material but not genetically engineered themselves; processed with or containing only small amounts of genetically engineered ingredients; administered for treatment of medical conditions; sold for immediate consumption such as in a restaurant; or alcoholic beverages."

2 [The list of donors](<http://bit.ly/SdGgCS>) to the No on 37 campaign is an inventory of the global corporations that produce GMO seeds and accompanying pesticides and the food and soft-drink companies that rely on the low-cost corn (and high-fructose corn syrup) that GMO-based agriculture provides them. To date, these companies have spent roughly \$44 million for television advertising. Monsanto alone has invested more in defeating this proposition than the \$7 million raised by the its supporters.

3 Akerlof, George A. (1970). "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism". Quarterly Journal of Economics (The MIT Press) 84 (3): 488-500. Interestingly, the paper was rejected from both the American Economic Review and the Review of Economic Studies as too trivial, then a third, the Journal of Political Economy, rejected it because it had to be wrong.