Case Study:
GMO Labeling – A Conflicting Dilemma

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INTRODUCTION

Kellie is a 33 year old red headed, outdoorsy woman who lives in southeast Wisconsin. About three years ago, she discovered that many of the health problems she was having at the time were due to eating certain foods such as products containing gluten or dairy. She had read online, while educating herself on alternative ingredients, that foods produced with genetically engineered (GE) ingredients might also contribute to the health problems she was having. The solution was simple: Eliminate these types of ingredients from her diet by carefully reading foods labels.

As Kellie began to closely observe each packaging material she came across, she began to notice the many symbols and statements, showering her with information. Texts such as "Now contains 33% less sugar!" and the usual ingredient statement were pretty easy to understand. Others were not as obvious. An odd symbol on the packaging of a chocolate milk mix, which looked like a circle with a "U" in the center of it, barely caught her eye. "I wonder what that means…" Kellie thought to herself.

She continued to scan the packaging labeling and noticed another odd symbol (Figure 1). It appeared to be some sort of square made of up a hundred other small squares and rectangles. "Must be something the factory uses when they make the product" Kellie thought to herself. "Or maybe it helps them track this particular product in case of a recall."

(Figure 1, Q.R. Code)

Either way, she didn't see any of her problem foods in the ingredient statement, nor was there anything indicating it contained GE ingredients. She then finished looking over the packaging, opened it, and used the food product in her cooking. What she didn't realize was that this symbol (called a Q.R. code) actually contained information revealing the mix *did* in fact contain GE ingredients.

THE ISSUE

The subject of labeling of foods which contain genetically modified organisms (GMOs) has been an ongoing debate since the 1990s. A GMO is defined as any organism which has had its genes artificially modified, through genetic engineering (GE), for the purpose of changing one or more of its characteristics in ways that would not normally occur in nature (World Health Organization, 2014). These changes typically have a positive impact on the farming industry's ability to grow/harvest the plant, or enhance the plants attributes (such as producing more protein.) The debates around labeling such products involve three key players: the food industry, government legislators, and the consumers.

In this case study, the food industry primarily refers to food giants such as Nestlé, Mondelez International, Mars, Coca-Cola, and Pepsi. Companies such as these play a key role in all legislation related to the food industry due to the impact their sales have on the U.S. economy. In 2015, total retail and food service sales in the United States alone was over $5 trillion (Total Retail and Food Services Sales, 2016). To put that in perspective, in 2015 the United States GDP was estimated to be about $18 trillion, implying food sales accounted for over a *quarter* of the U.S. GDP that year ("Gross Domestic Product", 2016). However, while the food industry's sales are significant, they can only be achieved through the sales generated by its consumers.

Consumers are the second key player in GMO labeling. Consumers include any person that purchases food product/services from establishments such as grocery stores, restaurants, convenience stores, or even online food shopping. The food industry must closely watch the trends that consumers establish, such as wanting GMO labeling, and work to accommodate these demands in a way that maximizes profits. Meeting trend demands can be a difficult task since often these trends do not always benefit the major members of the food industry. In many cases, the food industry will push back on these demands, causing disputes and distrust between them and the consumer. This is particularly why the government (both state and federal if necessary) must step in.

The government, as a key player in GMO labeling, must mediate between the consumer and the industry. When proposing any legislation, they must balance the needs of the consumer and the industry to ensure a healthy relationship between both parties. By doing so, the economy benefits from this harmonious relationship through increased sales. In terms of GMO labeling, the federal government enacted legislation that allowed three methods for GMO labeling: A text statement, a symbol (still being developed, but possibly similar to the kosher symbol), and/or a Q.R. code (Wheeler, 2016).

These three methods of labeling are the core of this case study. Each method will be analyzed from each perspective of the three major key players. In conclusion, this case study will make a recommendation on which method is the most appropriate in order to achieve an ideal relationship between the industry and the consumer. To begin, this paper will dive into concerns around GMOs, as well as discuss the events leading up to recent legislation on the matter.

FOOD CONCERN

Food concerns can be grouped into five major categories: Food quality, food safety, food fraud, food defense, and food security. For many consumers and anti-GMO activists, a major concern for them is food safety. Food safety refers to the health of the consumer upon eating a food product. There must be an acceptably low risk of injury upon consumption in order for the food to be deemed safe (Ellefson, 2012).

There are a lot of questions surrounding the effects, if any, of genetically modified (GM) foods. While current studies show there are no short term food safety concerns, people are still concerned about long term health effects, given that GMOs have only been available to the public for 30 years. A rise in certain health problems, such as gluten allergies, have raised a lot of questions. Consumers want to know if what they are eating contains GE ingredients so that they can avoid such foods.

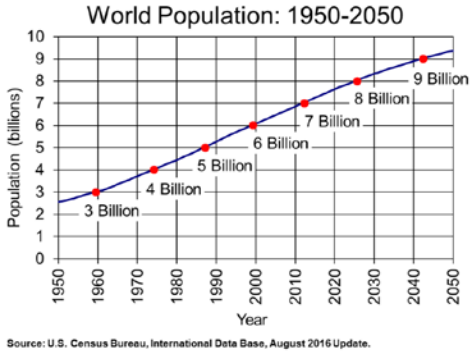
Food quality is also a concern when dealing with GMO labeling. Food Quality refers to the value the consumer sees when buying a product (Ellefson, 2012). Many people believe that organic non-GMO foods are higher in quality. In many instances, people are willing to pay a bit more for a higher quality product. The industry argues otherwise, stating that foods containing GMOs are just as nutritious as any other non-modified food on the market. Not only this, but they are cheaper, which brings us to the last food concern: Food security.

Food security refers to a person’s confidence in having access to food on a regular basis (Ellefson, 2012). While labeling itself doesn’t directly affect food security, a driving argument for producing GE foods in the first place revolves around greater efficiencies when harvesting GE crops. With Earth’s growing population, the industry must find ways to keep up with production.

History/Background

Growing Population

In 1990, the Earth's human population was approximately 5.3 billion. This number increased to 6.1 billion in 2000, almost 7 billion in 2010, and has been predicted to reach over 9 billion by 2050 (Figure 2) (Total Midyear Population, 2016). A growing population means more mouths to feed, however, Earth's surface area for agriculture is not getting any larger. In fact, farmable land is actually shrinking. According to the Food and Agriculture Organization, arable land per person has gone from 0.38 hectare in 1970, 0.23 hectare in 2000, and an estimated 0.15 hectare by 2050 (Food and Agriculture Organization, 2010).



(Figure 2, World Population 1950 – 2050)

This implies humans, in order to sustain a growing population on less land, the agricultural industry must become more efficient in its techniques. Any inefficiencies such lost crops due to disease, pests, weeds, droughts, etc., must be drastically reduced. This is what Dennis Gonsalves, former Liberty Hyde Bailey Professor of Plant Pathology at Cornell University, and his team set out to accomplish when hearing word of a devastating virus affecting Hawaii's papaya industry (Cornell Alliance for Science, 2014).

The Papaya Ring Spot Virus

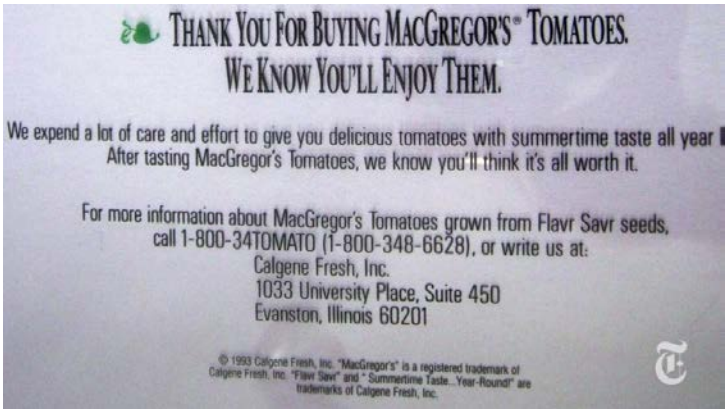
In 1978, the papaya ring spot virus was beginning to affect papaya crops in Hawaii. Professor Gonsalves and his team knew that if the virus made it to the main crops in Hawaii, the industry would suffer greatly. The team set out to develop a papaya resistant to the virus, and by 1991 it had developed a potential papaya organism. They began field testing shortly after, performing safety checks and working with regulatory organizations. By 1994, all the crops in Hawaii became affected by the virus, and in 1998 over half of the crops were lost. The new papaya was finally introduced on May 1st, 1998, and by 2012 the new papaya occupied over 85% of Hawaii's production, saving the industry (Cornell Alliance for Science, 2014). The project was a success, however, this successful gene manipulation wasn't the only project occurring at the time.

The Flavr Savr Tomato

In the 1980s, a group of bio-tech scientists, working at Calgene, set out to improve the current market tomato. Normally, tomatoes were picked while they were still green because they were firmer, making it easier to transport. The ripening process was induced later, leaving a product that wasn't as tasty. The Calgene scientist set out to "turn off" the gene that made the tomato squishy, allow it to ripen on the vine, stay firm enough for transport, and extend the shelf life resulting in a tastier and longer lasting tomato. At the time, the task was a bit like swimming

in unknown waters. No one really knew the rules around GE, nor were there regulatory processes in existence (Winerip, 2013).

Despite this challenge, the Flavr Savr tomato was created after eight years of work and $20 million. The Calgene team knew that they weren't *required* to go to the FDA for approval, however, they wanted to be transparent about their product and the work they put into it so that the public would be more accepting of it. There were still plenty of concerns around the unknown risks of gene manipulation despite all the safety testing, however, the public had a surprisingly positive response to the product when it hit the grocery store shelves in 1994. Products were clearly labeled, brochures were provided next to product, and even contact information was included on packaging in case anyone had questions, concerns, or comments (Figure 3). The team sold every tomato that hit the market, unfortunately, the sales did not last (Winerip, 2013).

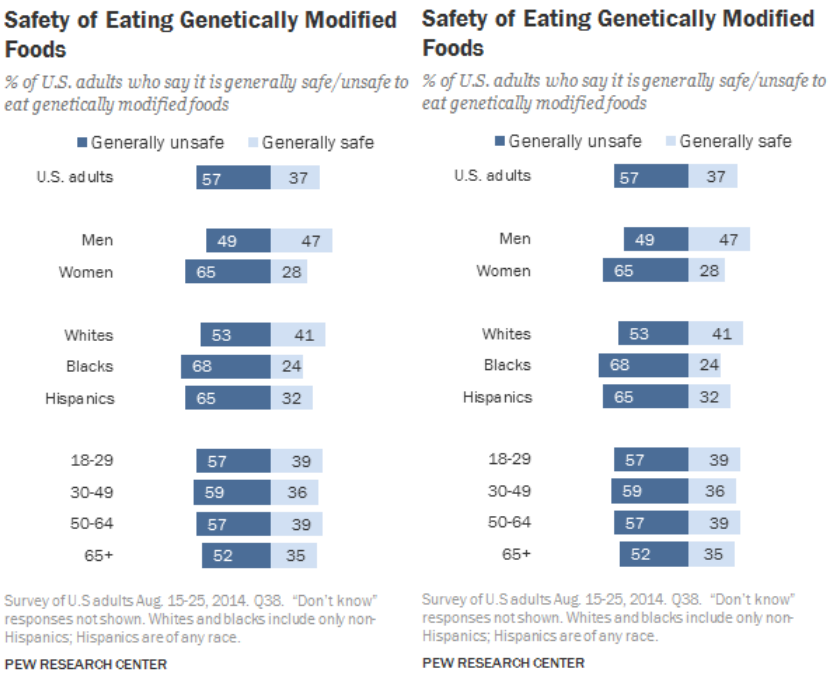


(Figure 3, Flavr Savr Grocery Label)

Belinda Martineau, former principle scientist at Calgene, stated years later "We were really a bunch of gene jockeys, not tomato farmers". Due to minimal commercial impact with the new tomato, Calgene eventually was bought out by Monsanto in 1996. Monsanto opposed GMO labeling. They discontinued the Flavr Savr tomato, and instead proceeded to make billions by selling GE seeds for major crops such as corn and soy. These crops were resistant to insects, herbicides (Such as Roundup), and yielded better results when harvested. The products derived from these crops had no GMO labeling, which began to raise concerns amongst consumers (Winerip, 2013).

Growing Concerns of Consumers

The first and most obvious question is "Are GMOs safe to eat?". The answer: It depends on who you ask. The Pew Research Center conducted research into the matter, getting the opinion of consumers. They found that 57% of U.S. adults believed GMOs were generally unsafe, while only 37% they were safe for consumption. Also to note, as one's education level increased, they became more accepting of GMOs. This was significantly apparent for those who had more scientific backgrounds (Funk, 2015). (See Figure 4.) What's clear about this data, is that a significant percent of consumers question the safety of GMOs.



(Figure 4, GMO Opinion Demographics)

Anti-GMO activists and many consumers have criticized GMO usage from many different angles. Charles Benbrook, an organic researcher at Washington State University, stated that "The science just hasn't been done," in terms of GMO safety. When the science *had* been done, it typical involved scientists with close ties to the FDA or major food industry organizations, causing distrust in the results. Not only this, but several studies have been accused of using poor methodology (Druker, 2014).

GMOs have also been thought to increase use of herbicides, cause dangerous side effects, environmental harm, and "contaminating the gene pool" (Smith, 2011). The industry has also been criticized for failing to increase yields to battle hunger. Activists believe GMOs simply exist to put money in large corporate pockets. However, the food industry argues otherwise.

Industry Believes GMOs are Safe

The industry believes that the claims mentioned above are simply false. According to the Genetic Literacy Project (an organization dedicated to separating scientific facts from ideology and to create public awareness around genetic in addition to other related topics), major international science groups in the world have reviewed hundreds of independent studies around health concerns and GMOs (Entine, 2013). Even a team of Italian scientists took it upon themselves to review 1,783 studies on the matter. With all of this data, researches couldn't find any credible examples showing that genetically modified (GM) foods posed any threat to human or animal health (Entine, 2013). Despite this data, the public still pushed back.

One factory manager for a major food company mentioned earlier, stated that "One of the things that I think is a challenge is the lack of education of the consumer." They went on to say "How do we communicate and make our consumers more knowledgeable?" Given the Pew Research Center's study, many people would agree that educating consumers is a good method for getting them to be more accepting of GM foods (Z Manager, 2017).

With more efforts into educating consumers, the industry could teach people about how pesticides and herbicides usage are greatly reduced in GM crops, how yields can increase by

more than 30% for many farmers (lowering prices of products, and helping food security issues), and how they are just as safe/nutritious as any other foods (Z Manager, 2017). Many of the reasons, as one may have noticed, are the exact *opposite* of what anti-GMO activists are stating. Given such a polarizing topic, Anti-GMO groups push for labeling despite the scientific data.

A New Hope for GMO Labeling

Vermont was the first state to make a concrete stand for GMO labeling. A partnership between Rural Vermont, Northeast Organic Farming Association of Vermont, and the Vermont Public Interest Research Group, called themselves the Vermont Right to Know GMO Coalition. The goal of this group was to ensure that products containing GMOs, or those produced through GE, had clear and easy to understand labeling indicating as such. With the support of Vermont consumers along with 240 businesses, they made a strong stance against the food industry, calling for clear GMO labeling (World Health Organization, 2014).

After much hard work, Vermont's governor signed a GMO labeling law on May 8, 2014, requiring all foods sold in Vermont, containing GMOs or those produced using GE, to be labeled as such by July, 2016 (Ford, 2014). Gov. Peter Shumlin stated "Vermonters take our food and how it is produced seriously, and we believe we have a right to know what's in the food we buy" (Hopkinson, 2016). The legislation was challenged by the food industry, as expected, but the challenge failed, and the law went into effect as scheduled. But why would the food industry make such a fuss about a single state wanting GMO labeling, especially when this state was the 2nd smallest state (by population) in the country?

The food distribution system in the United States is a complicated, multi-level network which has been in development since America was settled. Modern distribution must keep up with global demand, requiring it to take on specific characteristics. One of these characteristics involves giant warehouses and distribution centers where product is organized by type, rather than destination. A major facility is unable to produce product for a specific state while guaranteeing that it will only make it to a specific destination. In this case, if packaging that doesn't have a GMO statement is produced, the risk of it making it to a Wal-Mart in Vermont is too great. Lawsuits would be inevitable, and constant court battles would be costly. The only solution was for the *entire* country to switch to GMO labeling for *all* products sold on a national level (Z Associate, 2016).

THE FOOD INDUSTRY STRIKES BACK

Two weeks after Vermont's huge victory on GMO labeling, the US House of Representatives voted to pass a federal GMO labeling bill (306:117 votes) that pre-empted and nullified all state GMO labeling legislation, including Vermont's. President Obama signed the National Bioengineered Food Disclosure Standard Act of 2016 into law, giving the USDA two years to set up "national mandatory bioengineered food disclosure standards." While the bill requires all food containing GMOs or those produced through GE to be labeled, the industry now has flexibility on *how* the information is communicated to the consumer (Watson, 2016).

The industry now has three choices to label food product that contains GMOs or was produced through GE: The original text statement, a symbol (like a kosher symbol), and a more modern approach, the Q.R. Code. This is where the background of this case study ends, and the analysis of each method beings. Food companies must now choose the method that is "best", taking into account multi-dynamic factors including their own sales, the consumer's rights, the law, and their own beliefs (Wheeler, 2016).

DILEMMA

Given the concerns over GMO labeling and food authenticity, what method(s) should be used (text statement, symbol, and/or Q.R. Code) in order to achieve a harmonious relationship between each party's needs, while maximizing profits?

METHODOLOGY

It was difficult to perform an analysis that was entirely neutral. The vast majority of the information on the topic of GMOs and GMO labeling usually took one side or the other (despite the author's claims or the article's title). One article, written by Treacy Colbert entitled "GMOS: Pros and Cons," appears to be unbiased at first glance, however, a reader would be quick to realize that a single paragraph of pros can't compete with several pages of cons (Colbert, 2017). While this article sounds unbiased, the author clearly decided to only elaborate on one side of the argument.

This was the driving reason for evaluating this topic from multiple perspectives and utilizing the FTC's criteria for food label claims. Each perspective mattered in this analysis, as all parties of interest had valid concerns.

ANALYSIS

The Text Statement

Party of Interest	Analysis
The Food Industry	The text statement is the industry's least favorite option. A statement such as "Produced through the use of Genetic Engineering", isn't exactly appealing. In fact, many people would agree that it is actually a bit scary, especially if one is unfamiliar with the concept. This makes it hard for the industry to want to place such statements on their packaging. It is especially hard for the industry to take this rout, because as of today there has been no creditable scientific evidence suggesting that GMOs are harmful to consumers. The food industry, in this case, would ask "Why should we put GMO labeling on our products, which would deter customers, when there isn't anything to be afraid of?"
The Consumer	When one think's about the relationship between consumers and the industry, they would like to think that it is the *consumer* that determines what the food industry produces, and not the other way around. If a large percentage of consumers want chocolate covered fudge deep fried in more chocolate, *that* is what the industry should produce. Using that same logic: If consumers want packaging to indicate whether or not it contains GMOs, they should be allowed to know, correct? The positive correlation between transparency and consumer trust isn't a new concept. More than half of Americans would prefer their foods to not contain GMOs, implying they would like the capability of distinguishing between GMO and non-GMO products. The state of Vermont determined that a text statement was the best option for this communication. It is clear, easy to understand, and straight to the point. Over 85% of Americans can read at an

	average or above level, making the text statement an effective communication method for nearly everyone.
The Government	Is the text statement truthful and non-deceptive? (Does it mislead the consumer, and is the attribute important to the consumer?). A text statement such as "Partially produced through Genetic Engineering" is clear and is likely to not be misinterpreted. The claim is not likely to mislead a consumer regarding product information they find valuable. Is there evidence to back-up the claim? This would most likely apply to statements such as "Does not contain GMOs" or something similar. The answer to this is actually a bit in the grey area. There are currently tests that can determine whether or not the product currently contains GMOs. The issues with this is that highly processed foods are often processed to the point in which GMO indicators in the product are actually eliminated. In this case, a text statement may lack the necessary information for the consumer to make a sound decision. Is the claim unfair? Statements such as "Contains GMO Ingredients" and "Product is non-GMO certified" would not be completely fair when competing for consumers. If product A and product B were equivalent with the exception of the GMO statement ("Contains GMOs" vs. :Does Not Contain GMOs," respectively), consumers would naturally gravitate towards the product that does not contain the scary statement, in this case Product B.

Text Statement – Opinion in brief

While my original biased stance on this topic wanted to push for a clear text statement on all food products that contain GMOs, I have begun to question this approach, to my own surprise. Both the consumer and the food industry have valid points: Both scientific and financial evidence gives the food industry little motivation to use a text statement. The consumer *does*, however, have a right to know about what is in the food they are eating. When taking the governmental approach, it became apparent that a text statement would favor consumer's "right to know", while taking away from the industry's "right to market" their product effectively.

GMO Symbol

Party of Interest	Analysis
The Food Industry	A GMO symbol is not nearly as invasive as a text statement. This isn't a new concept given the fact that a similar practice, the kosher symbol, already exists on many packaging materials. One great benefit of a symbol over a text statement is that a symbol is less likely to deter a consumer from eating a product. As mentioned above, a text statement can be unappealing/scary to consumers. In order for the GMO symbol method to be effective, the consumer would require proper education to understand the symbol. Not only this, but they would have to actively *look* for this symbol implying that they have a genuine concern about GMOs. Therefore, a symbol would be a more targeted message towards those who are truly concerned, as opposed to affecting those who are less concerned.

The Consumer	A symbol means nothing to a consumer unless they have been educated on the meaning of that symbol. If they know its meaning, the symbol would theoretically be just as effective at communicating the necessary information, as compared to a text statement. Those who are less educated or simply do not seek information on the subject would most likely not take a second look at the symbol as they glance over food packaging. Given the fact that most Americans want to know about GMOs in their foods, and that a significant number are concerned about GMO safety, the implementation of a symbol would *have* to be accompanied with some type of education plan. Without it, the symbol would be useless.
The Government	Is a GMO symbol truthful and non-deceptive? (Does it mislead the consumer, and is the attribute important to the consumer?) The symbol has not been established as of yet, meaning it is hard to determine whether or not it would be misleading. To analyze this option, we turn to a thought experiment. Let's suppose that the symbol was a very "granola" like symbol. "Granola" could be defined as "A very nature friendly, organic, love for the outdoors, all-natural, everyone is happy feeling", approach. In this case, I would say that the symbol *would* be misleading. GMOs are defined as organisms that have had their genetic structure modified in such a way that would *not* naturally occur in nature. But what if the symbol was similar to a biohazard sign? This too would be misleading. GMOs have not been scientifically shown to be harmful when consumed. It would have to be something in-between, which is difficult to measure. Whatever the symbol turns out to be, consumers must be educated on its meaning. Is there evidence to back-up the claim? Refer to Text Statement analysis. Is the claim unfair? Unlike the text statement, a GMO symbol takes a more neutral approach when compared to a text statement. Reason being is that it tends to target only those who are genuinely concerned about the subject, as opposed to *every* consumer. In this sense, the use of a symbol would not have as negative of an impact on sales, as compared to using a text statement. Consumers have the right to know what they are consuming, and a symbol would communicate this information is a non-threatening way.

The QR Code

Before diving into this final analysis, a brief overview on Q.R. codes is due. A Q.R. code is extremely similar to the bar code on all packaging materials that a retailer scans in order to determine what to charge the consumers at the point of purchase. (See Figure 5.)

(Figure 5, QR Code vs Bar/UPC Code)

UPC codes (also referred to as a bar code) are primarily designed for the *retailer*, and how much they charge the consumer for the product. It also distinguishes the product from all other products. The Q.R. Code is similar to a bar code, with a key difference: The Q.R. Code is strictly designed to provide the information to the *consumer*, as opposed to the retailer. Think of a Q.R. Code as a website link (like www.google.com). When a smartphone scans the code on a packaging material, the device opens the user's internet browser and takes them directly to the website embedded within the code. Essentially, it saves the user time from having to manually type in a web address by letting the smartphone do it for them. This process acts as if your phone is clicking on a hyperlink.

As a quick exercise, I would like to challenge the reader to go through the process that an average consumer would experience by: Using their smart phone device to search for a Q.R. Code scanner application, installing the application, and using the application on the Q.R. Code above. Don't be alarmed. The Q.R. Code takes you to a www.bbc.com related web page. If you are unsure of what application to use, I would recommend using "QR Code Reader" by TWMobile. Feel free to uninstall it, of course, after you're done. This exercise is simply intended to help you better understand the analysis below.

Party of Interest	Analysis
The Food Industry	As mentioned before, the direct phrase stating a product was produced through genetic engineering, is not appealing to the vast majority of consumers. By using a Q.R. code, an additional step is placed between the consumer and this "scary" phrase. Similar to the symbol approach, only those who are actively interested/care about the information will find it. Those who do not particularly care won't be exposed to information they aren't actively seeking. One huge advantage to using a Q.R. code is that once scanned, the consumer would have access to as much information as the industry can place on a website. This is an important aspect of Q.R. Codes, because this could save the industry millions of dollars. Updates to packaging graphics/information isn't as simple as point-and-click. Changes must have purpose, meet regulatory standards (requiring regulatory input), graphics must be changed in a way that appeals to consumers, changes must be coordinated with packaging producers, and the list goes on. With a Q.R. Code, the food industry could keep information on packaging that doesn't change often, while using a website to update information that tends to change more. These savings translate to more affordable product, making them more accessible to consumers.

The Consumer	Advocates for consumers' "Right to know" does not tend to favor this stance. They view this method as a means to prevent consumers from learning whether or not their foods contain GMOs. By adding a step to gain access to information, people naturally are less likely to put forth the effort. In addition, once the user navigates to the website the Q.R. Code is linked to, additional steps to find the specific information they are seeking would further reduce their chances of locating GMO information. Requiring people to use their smart phone/device to scan a product isn't exactly convenient for consumers. This is especially apparent for older generations that have a difficult time using technology. The "right" application for the user must be searched out, downloaded, installed, and put into use. This may have become apparent to the reader following the exercise from above. Was it easy to find the right application? Was it easy to use? Could your parents effectively navigate this process? These are some questions that come to mind when using this technology. Clearly, a text statement is the easiest and most effective method for communicating this information.
The Government	Is the Q.R. Code truthful and non-deceptive? (Does it mislead the consumer, and is the attribute important to the consumer?) A Q.R. code would be classified as a truthful method, however, it may not be seen as "non-deceptive" with our current culture. Given the fact that a significant number of people would be unable to check a Q.R. code at their point of purchase due to lacking a smart phone (typically due to finical reasons or generation gap), shows that there is some room for potential deception by the vendor. A Q.R. code might be more effective years down the road, however, our current culture may have a difficult time with it. Is there evidence to back-up the claim? Refer to Text Statement analysis. Is the claim unfair? A Q.R. Code by itself is a fair method of communication. As we learned from the exercise above, all a Q.R. Codes does is take you to a website. The questions of fairness doesn't rely on the method itself, but instead it depends on the *design* of the website. A website can be designed in such a way that makes certain information difficult to find, while promoting other information. This would mean that in order for Q.R. Codes to be fair, some type of set format should be set that all industries adhere to. That way, when a consumer is looking for information, they would experience a similar navigation system for all products they scan. This concept is similar to a chain store's layout, like Wal-Mart. A customer can walk into *any* Walmart in the United States and know generally where everything is, despite being in a different store.

INSIGHT BEFORE CONCLUSION

Recently, at the major food company I work for, I had the privilege of participating and leading parts of a large project in our facility. The specific area I was tasked with focusing on was a system called “centerlining.” Essentially, a centerline is an adjustment point on a machine that an operator would have to make changes to in order to optimize the production of a product. For example: Our machines that seal our packaging closed must operate at certain temperatures, timings, and pressures in order to ensure the packaging properly seals shut, ensuring fresh product. The temperature, timings, and pressures are considered centerlines.

When determining these centerline settings, we had to keep many aspects in mind: Does the setting produce product that meets Quality Assurance standards? Does the setting ensure the machine stays running and doesn’t shut down due to jams/malfunctions/etc.? Does the settings meet safety requirements for our operators?

When trying to determine the best method for GMO labeling, it’s not *just* about the consumer. Nor is it *just* about the food industry or the government. It’s about the system as a whole, and achieving a balanced method that best creates a harmonious relationship between all parties of interest.

CONCLUSION

Memo to Industry

Sir,

As you are aware, our company is faced with a decision on how to approach GMO labeling. I’m sure you are also aware that it is an extremely polarizing topic, and therefore, this decision must be taken with much consideration for all parties of interest.

After spending much time researching the matter with an open mind and considering all three methods (Text Statement, Symbol, QR Code), my conclusion on which method to use didn’t fall on a single method; but rather a combination of methods: The use of GMO symbols which eventually transition into QR Codes, is our best approach on handling this situation. The use of a text statement is not advised.

The Text Statement approach, while being the most clear and straightforward method of communication, greatly favored the consumer’s preference for easy-to-access communication. There is no arguing that transparency in a company and communication is a necessary and positive aspect in any industry, however, when the method unnecessarily discourages product sales and hurts the industry, questions begin to arise. It is illogical to place a statement on packaging that wards off customers when there has been no creditable scientific evidence that suggests GMOs are harmful to consumers.

This being said, consumers still have the right to know if a product was produced through the use of genetic engineering, however, it seems reasonable to only inform those who actively care about this attribute. A GMO symbol or QR Code can accomplish this. Not only would consumers have access to a lot of product information (more than ever, in fact), but this method would save our company millions of dollars in packaging graphic changes. Instead of having to make changes to the physical packaging, simple changes to a website could be made saving dollars and lowering our prices, encouraging sales.

A concerned consumer would simply have to look for the symbol or scan a product with s smart device in order to access the information they seek. The goal would be to eventually use

QR Codes exclusively. Currently, this isn't ideal since not everyone owns a smart device capable of scanning a QR Code. In addition, older generations tend to have issues with using technology. This is why a symbol should be used for the time being until our culture becomes generally more accepting of QR Codes; not only for GMO information, but for general product information as well.

If this route is taken, I encourage you to fight for education regarding general GMO information, the meaning of the GMO symbol, QR Code usage, as well as a federal standard for website formats linked to QR Codes. This last aspect is key to our success. If consumers have to navigate a new website format for each product they scan, communication of product information will become ineffective as an industry, and the QR Code approach will fail. Working with other food companies along with the federal government is key to the success of this labeling strategy.

Thank you for your time on this matter,

Respectfully,
Robert Strong, Quality Assurance, Lab Technician

WORKS CITED

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