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Will the New "Bioengineered" Label Effect Demand for Fruits and Vegetables?

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On January 1, 2020, with very little consumer fanfare, the U.S. implemented the bioengineered labeling law, and any product that contains genetically modified organisms (GMOs) requires a label, telling consumers of the presence of GMOs. This "label" can be listed on the product in any one of four ways:

- Text on the package indicating use of bioengineered products
- Use of the bioengineered graphic logo
- An electronic link such as a QR code
- A text or telephone number that can be used for more information

The U.S. Department of Agriculture has two different logos approved for use:



Label required by Jan. 1, 2022, on food products containing bioengineered products and byproducts. Photo by USDA.

Exemptions include:

- Manufacturers with sales less than \$2,500,000.
- Food service establishments (restaurants, cafeterias, airline meals, etc.) where the food is intended for immediate use.
- Meat and dairy products from animals fed bioengineered products.

Very few foods actually have varieties that have been genetically modified, now called bioengineered, and approved for production and sale in the U.S. It is possible for GMO-free products to become contaminated in the field or in the processing plant or supply chain. Therefore, the law will allow a food product to contain up to and including 5% bioengineered product and not need to be labeled.

Although there is no scientific evidence of GM food being harmful to human health, a perception gap exists between producers and consumers on the acceptance and safety of the technology. Many studies have addressed consumer attitudes toward GM foods, and most studies find that consumers' willingness to pay for GM foods is significantly lower than for their non-GM counterparts.

Product labels usually provide information about how those products were produced, such as ingredients used or growing methods. Some researchers believe that food labels can also provide a signal, not just about the product's own attributes, but also about their counterparts. For example, the "dolphin-safe" label might suggest that unlabeled, conventional counterpart seafood products are produced in a way that harms wildlife.

In the case of GM foods, consumers in the U.S. have seen "absence-claim labeled" products such as The Non-GMO Project. Our new law in a sense reverses which products will be labeled. Now, products that contain GM organisms will be labeled, according to USDA, as bioengineered.

The conventional industry has criticized potential negative impacts brought by labels that claim they are "free" from something. For instance, according to Kanter, Messer, and Kaiser (2009), although rBST is a synthetically produced natural hormone that the FDA declares is not harmful to human health, the "rBST-free" milk label stigmatizes consumer demand for unlabeled conventional milk.

But labeling the "presence" of something in a product may have a different impact on the demand for unlabeled counterparts, particularly for fresh fruits and vegetables. A study at Cornell by Yeh, Gómez, and Kaiser provides information about how consumers might shop for fruits and vegetables labeled as genetically-modified versus fruits and vegetables that are unlabeled.

To gauge potential consumer response, the researchers conducted a behavioral analysis using a national survey of 1,306 consumers to examine the signaling effect of direct text labels on consumer choices. The study asked participants to indicate whether they would or would not purchase fresh produce products (strawberries, apples, and potatoes) based on current market prices under three different types of direct text labeling: (1) unlabeled (control group), (2) labeled with "Genetically Modified", and (3) labeled with "Not Genetically Modified".

The researchers found two results of special note:

1. The presence-claim, GM, label enhanced the demands for the conventional, unlabeled products.
2. Surprisingly, the reverse was not found, specifically a signaling impact from the absence-claim, Not-GM, label. *In other words, the demand for conventional, unlabeled products was not negatively impacted by the Not-GM labels for the products in this study.*

The new federal law allows manufacturers to use labeling options other than the text disclosure used in this study, including symbols, electronic links, and QR codes, but this study focused only on direct text disclosure. Hence, this study sheds light on part of, but not the complete, set of provisions captured by the new National Bioengineered Food Disclosure Standard (NBFDS).

These results provide credence to the notion that food labels may have a signaling role to consumers beyond the direct product claim of the label. In some cases, product labels can serve as not only an identifier of the product attributes but also significantly affect the demand for other competing products on the market.

Most growers in the U.S. will not need to worry about the labeling law at this time. Very few GM produce have been approved for production and sale in the U.S. Although there has been some GM fruit and vegetables introduced to the market in recent years, the vast majority of fresh produce currently available in the marketplace is not bioengineered. Thus, the signaling impacts may be different if the featured products are processed food or other food products with widely recognized GM varieties such as for canola oil or soybean products.

For those producers or manufacturers who will need to label their products, these researchers feel the text disclosure is generally more noticeable to consumer and the term “bioengineered” specified in NBFDS is less recognizable to consumers relative to the term “genetically modified” used in this study, the estimated signaling effects might represent the upper bounds of the true effects.

The new labels are just being found in grocery stores, and future research can examine the impacts of GM labels of consumer choices in actual shopping occasions when fresh produce with such labels are available in grocery stores.

References

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