



August 2013 (Updated September 2018)

National Bioengineered Food Disclosure Standard: Mandatory Labeling of GMO Foods

Author: Benjamin Senauer, College of Food, Agriculture and Natural Resource Sciences, University of Minnesota; Lauren Bernstein*, Center for Animal Health and Food Safety, University of Minnesota.

Multidisciplinary review team and references available at z.umn.edu/PolicyBriefs

Summary of Findings:

- In July 2016, Congress passed a bill requiring companies to label food containing genetically modified organisms (GMOs). As of September 2018, the specifications of the bill have not been finalized.
- GMO, genetically engineered food (GE), and bioengineered food (BE) are all synonymous. The new law officially labels GMOs as BE.
- The major arguments for mandatory labeling include the consumer's right to know, controversy over genetic engineering, and a lack of trust of the government regulatory process. Additionally, many countries already require labeling and a majority support it in polls.
- The major arguments against mandatory labeling include viewing it as a false warning that BE foods are risky, availability of BE-free options such as organic products, the difference between a right and need to know, potential reduction of consumer choice, and the potential rise in the cost of food.

Background

Genetic engineering involves the manipulation of genes in the lab to create new varieties of plants, animals, and organisms with desired characteristics. Most processed foods in the U.S. contain genetically engineered (GE) ingredients, since 88% of the corn and 93% of the soybeans grown in this country in 2012 were genetically engineered. The first attempt to require the mandatory labeling of GE food in the U.S. was Ballot Measure 27 in 2002 in Oregon, which was defeated. The issue of mandatory labeling was revived in 2012 by Proposition 37 in California, which also was defeated in the election. In 2013, 25 states considered legislative proposals or ballot initiatives requiring labeling of foods with GE ingredients. In 2016, Vermont passed a bill that required mandatory labeling of GE foods, becoming the only state to have implemented such a policy.

That same year, the U.S. Congress passed a bill to create a federal standard for mandatory labeling, superseding the existing Vermont law. The new National Bioengineered Food Disclosure Standard (NBFDS) uses the term "bioengineered food" (BE) to describe GE foods or foods containing GE ingredients. Genetically modified organisms (GMO), GE, and BE are all synonymous. The overarching goal of the NBFDS is to provide uniform information to consumers.

*B. Senauer authored a version of this brief in 2013. L. Bernstein updated the brief in September 2018 to reflect the most current changes to the discussion of bioengineered foods, including a renaming of "genetically engineered food" and the 2016 labeling bill.

As of September 2018, the U.S. Department of Agriculture has not finalized the rules of the bill which would include defining which ingredients are classified as BE and what quantity of ingredients classify a food as containing them. The requirement involves three labeling options: a text label, symbol, or electronic (QR) code. These options direct consumers to call a 1-800 number or use the QR code to seek further information about the BE ingredients in the product. Despite consumer advocacy groups pushing for labeling laws, the bill has faced some criticism. Many believe the bill fails to provide appropriate transparency and withholds information from low-income communities that may lack the required technology. Food companies and agriculture groups who initially feared mandatory labeling, support this national solution and uniform information.

The case for the mandatory labeling of BE foods

- 1. Labeling conforms with the principle of the "consumer's right to know."**
 - The first argument usually made for labeling is that consumers have a right to know what is in the food they eat. Free market economics assumes purchase decisions are made by well-informed consumers, yet most U.S. consumers are unaware of the extent of BE ingredients in food.
- 2. BE crops and foods are still controversial.**
 - Opponents of BE foods see risks to health, the environment, and/or the concentration of power in the food system. Some do not trust the government regulatory process since special regulations and labeling for BE foods are not required, relying instead on industry testing and generally treating BE products as "substantially equivalent" to their conventional counterparts.
- 3. A number of countries already require mandatory labeling.**
 - Over 60 countries require the mandatory labeling of BE food, including Australia, China, India, Japan and the member states of the European Union (EU).
- 4. Polls show that a majority of Americans favor mandatory labeling.**
 - Nine out of 10 Americans in a poll of 3,000 conducted for NPR by Thomson Reuters in 2010 wanted foods with BE ingredients labeled. Other polls have had similar results.

The case against the mandatory labeling of BE foods

- 1. Labeling could be viewed as a warning that BE foods pose a health risk.**
 - Based on current knowledge, the broad scientific consensus is that the BE crops and foods approved by the Food and Drug Administration (FDA) are safe, although some experts argue for improved testing.
- 2. Prior to the 2016 GMO bill, consumers already had the option of BE-free products.**
 - Under the federal certification program, the "organic" label indicates a process has been followed to exclude BE organisms (i.e., BE seeds). However, accidental contamination can occur, for example, due to pollen drift from nearby fields with a BE variety. Although not routine, allowance is made for testing "organic" products believed to contain prohibited substances, such as pesticides and BE organisms. Companies can also voluntarily label foods as non-BE, but the labels must also indicate that there is no significant difference between the non-BE and BE product. The private Non-GMO Project has set a threshold of no more than 0.9% BE content for its certification, the same as the EU. The Non-GMO Project, Certified Organic, and other optional labels will continue to exist.
- 3. There's a distinction between the consumer's "right to know" and "the need to know."**
 - Consumers' "right to know" is virtually unlimited in terms of what it might arguably be applied to, whereas if something poses a real health risk consumers have a "need to know." This distinction between "right to" and "need to" may ultimately be in the "eyes of the beholder."

4. **Labeling may reduce consumer choice.**
 - In many countries with mandatory labeling, retailers no longer sell BE foods so consumers' choices have been reduced.
5. **Guaranteeing foods are non-BE could be costly.**
 - Segregating BE and non-BE products, preserving identity throughout the supply chain, or testing final ingredients or products for the presence of BE material would add to the cost of food. Reliable cost estimates of BE labeling are not available. A major expense could involve lawsuits. Most countries with mandated BE labeling produce little or no BE crops, which are frequently imported as animal feed. In those countries, segregation is easier and BE food labeling costs are minimal.

Further considerations

Although the effects of the NBFDS will not be measured for several years, a study published in June 2018 indicated that mandatory labeling may improve consumer confidence in GMO technologies and quell consumer fears over foods containing GMOs. The University of Vermont found that GMO-disclosure statements improved Vermont consumer attitudes compared to the rest of the U.S., suggesting that transparency leads to a sense of buyer control and confidence in GMO technologies. The study also suggested that the fear of GMO-disclosure statements becoming a "warning label" is perhaps an unfounded one. It is important to note, however, that the former Vermont law differs from the federal law. The terms GMO and GE are well understood among U.S. consumers. The new term, "bioengineered," and narrower GMO-definition may not yield the same results at the University of Vermont study.

References

1. Food and Drug Administration (FDA) (2013, May). [FDA's role in regulating safety of GE foods](#). *FDA's Consumer Updates*. Accessed 08/14/2013.
2. Harman, A. and Pollack, A. (2012, May 24). [Battle brewing over labeling of genetically modified foods](#). *The New York Times*. Accessed 08/14/2013.
3. Biron, C. (2013, April 26). [U.S. proposal would require labeling on genetically modified foods](#). *Nation of Change*. Accessed 08/14/2013.
4. Kalin, S. (2013, June 11). [On GMO labeling, Conn. needs other states to act](#). *Newsdaily*. Accessed 08/14/2013.
5. LegiScan (2013). MN SF821: [Minnesota Senate Bill 821](#). Accessed 08/14/2013.
6. Bryne, P. (2010, April 15). [Labeling of genetically engineered foods. fact sheet no. 9.371](#), *Colorado State University Extension*. Accessed 08/14/2013.
7. Raab, C. and Grobe, D. (2003). [Labeling genetically engineered food: The consumer's right to know?](#) *AgBioForum*6(4): 155-161. Accessed 08/14/2013.
8. Hensey, S. (2010, Nov. 12). [Americans are wary of genetically engineered foods](#). *National Public Radio*. Accessed 08/14/2013.
9. Deloitte. (2010). [Deloitte 2010 Food Survey: Genetically Modified Foods](#). *Deloitte Development LLC*. Accessed 08/14/2013.
10. Lasker, E. (2005). [Federal preemption and state anti-GM food laws](#). *Legal Background* 20(60). Accessed 08/14/2013.
11. Common Ground. (2013, April 7). Label GMO foods: I-522: [The people's right to know genetically engineered food act](#). Accessed 08/14/2013.

12. Kuzma, J. and Haase, R. (2012, Oct.). [Safety Assessment of Genetically Engineering Foods: U.S. Policy and Current Science](#). Issue Briefing Fact Sheet, *Food Policy Research Center, University of Minnesota*. Accessed 08/14/2013.
13. National Organic Standards Board, GMO ad hoc Subcommittee. (2013, Feb. 6). [Discussion Document: GMOs and Seed Purity](#). Accessed 08/14/2013.
14. U.S. Food and Drug Administration. (2001, Jan.). [Guidance for industry: voluntary labeling indicating whether foods have or have not been developed using bioengineering](#). *Draft Guidance*. Accessed 08/14/2013.
15. Peterson, B. (2013, Feb. 28). [USDA National Organics Program – Testing for GMOs Not Required](#). Accessed 08/14/2013.
16. Food Policy Research Center. (2013, June 6). [Food labeling: nice to know or need to know? “Finding Common Ground Forum Series”](#), University of Minnesota. Accessed 08/14/2013.
17. Colin, C. & Gruere, G. (2003). [Mandatory labeling of genetically modified foods: does it really provide consumer choice?](#) *AgBioForum* 6(1&2): 68-70. Accessed 08/14/2013.
18. Ettinger, J. (2012, April 6). [Is Monsanto going to sue Vermont to stop mandatory GMO labeling?](#) *Organic Authority Blog*. Accessed 08/14/2013.
19. The Food Law Firm. (2012, Sept. 27). [California Proposition 37, GMO Labeling, Part 3](#). Accessed 08/14/2013.
20. Bracken, Matthew. (2012, Oct. 31). [GMO labeling: California’s Proposition 37 and federal constitutional implications](#). *The Arizona Journal of Environmental Law & Policy*. Accessed 08/14/2013.
21. Cox, R. (2013, May 23). [Senate rejects amendment on labeling genetically engineered foods](#). *The Hill’s Floor Action Blog*. Accessed 08/14/2013.
22. Center for Food Safety. (2013, April 24). [Federal legislation introduced to require the labeling of genetically engineered foods](#). Press Releases. Accessed 08/14/2013.
23. Robb, M. & Gallo, A. (2013, March 8). [GMO labeling coming to Whole Foods Market](#). *Official Whole Foods Market Blog*. Accessed 08/14/2013.
24. Strom, S. (2013, March 8). [Major grocer to label food with gene-modified content](#). *The New York Times*. Accessed 08/14/2013.
25. Strom, S. (2013, Jan. 31). [Genetic changes to food may get uniform labeling](#). *The New York Times*. Accessed 08/14/2013.
26. National Bioengineered Food Disclosure Standard. (2018, May 04). Retrieved from <https://www.federalregister.gov/documents/2018/05/04/2018-09389/national-bioengineered-food-disclosure-standard>
27. President Obama Signed This GMO Labeling Bill. (n.d.). Retrieved from <http://fortune.com/2016/07/31/gmo-labeling-bill/>
28. Kolodinsky, J., & Lusk, J. L. (2018). Mandatory labels can improve attitudes toward genetically engineered food. *Science Advances*, 4(6). doi:10.1126/sciadv.aag1413