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A FEDERAL GMO LABELING LAW: HOW IT CREATES UNIFORMITY AND PROTECTS CONSUMERS

Jordan James Fraboni[†]

Senate bill S. 764 was signed into law on July 29, 2016 as the National Bioengineered Food Disclosure Law.¹ It is the first federal law that requires foods made from a genetically modified organism (GMO) be labeled as such. Several states have introduced legislation for GMO labeling, but the federal law differs in its requirements.² For example, the federal law permits disclosures through electronic or digital links such as a Quick Response (QR) code.³ The new law strikes an effective balance between providing consumers with knowledge and preventing misinformation about the safety of GMOs while also preempting prior state GMO labeling requirements.

This Note details the history and use of GMOs, how States have started to create laws for GMOs, and how concerns of uniformity and misunderstanding led to a federal GMO labeling law. An analysis of the bill's sections shows that the federal law effectively addresses those concerns, even though it does not provide as much information to consumers as some people would have liked. Part I explains the background of bioengineering and federal labeling, including prior state labeling requirements. Part II highlights and contextualizes key provisions in S. 764 and how they relate to the legislative history. Part III analyzes how S. 764 weighs various interests as well as implications for consumers.

I. BACKGROUND

This Part provides an overview of what GMOs are, arguments for why they should be labeled, and how both Federal and State governments have approached labeling GMOs in the past.

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1. S. Res. 764, 114th Cong. (2016) (enacted).
2. State law disclosure such as in Vermont would have required labeling on the package so that consumers could see whether a food was made with genetic modifications. *See* H. 112, 2014 Gen. Assemb., Reg. Sess. (Vt. 2014).
3. *See* 7 U.S.C.A. § 1639b(b)(2)(D) (West 2016).

A. GMOs AND HOW THEY ARE CREATED

Genetically modified organisms are created by modifying their original DNA.⁴ Because DNA acts as the template or recipe for proteins which determine an organism's traits, modifications in DNA can result in new beneficial features.⁵ Short sequences of DNA called genes can be identified in one species and added to another by cutting them out and inserting them into the second species.⁶ This allows the secondary species known as the target vector to produce new proteins that can result in advantageous traits.⁷ For example, genes from bacteria can be added to corn so that it becomes resistant to insects or tolerant to herbicides.⁸ Genetically modified rice, known as Golden Rice, was developed to combat Vitamin A deficiencies by having higher levels of beta-carotene, a precursor to Vitamin A.⁹ These types of changes allow farmers to produce higher yields of quality crops or decrease the cost of food production.¹⁰ This Section explains how the government regulates food and drugs from a broader perspective as well as the history of GMO use in the United States.

1. *How Food and Drugs Are Regulated in the United States*

The federal government previously regulated GMOs under the general statutory authority of safety, environmental, and health laws.¹¹ Introducing genetically modified plants required approval from the Animal and Plant Health Inspection Service.¹² GMO foods fell under the umbrella of the U.S. Food and Drug Administration (FDA) and did not need premarket approval

4. JANE B. REECE ET AL., CAMPBELL BIOLOGY 412–13, 831–32 (Beth Wilbur et al. eds., 10th ed. 2014).

5. *Id.*

6. *Id.*

7. *Id.*; see also Theresa Phillips, *Genetically Modified Organisms (GMOs): Transgenic Crops and Recombinant DNA Technology*, 1 NATURE EDUC. 213 (2008) (detailing some of the advantageous traits GMOs can provide for crops such as corn and soybeans).

8. See Chelsea Powell, *How to Make a GMO*, HARV. U. GRADUATE SCH. ARTS & SCI.: SITN (Aug. 9, 2015), <http://sitn.hms.harvard.edu/flash/2015/how-to-make-a-gmo/> [<https://perma.cc/Q5FE-RCDM>] (describing how a GMO is made and providing examples of new traits provided by genetic engineering).

9. REECE, *supra* note 4, at 832.

10. Phillips, *supra* note 7, at Current Use of Genetically Modified Organisms.

11. See Luis Acosta, *Restrictions on Genetically Modified Organisms: United States*, LAW LIBRARY CONG. (Mar. 2014), <https://www.loc.gov/law/help/restrictions-on-gmos/usa.php> [<https://perma.cc/9UDB-JGC7>].

12. *Id.* at Section IV.A.

unless they differed significantly in structure, function, or composition from non-GMO foods.¹³ This position was articulated by the FDA in 1992.¹⁴

The FDA requires biological products with or without genetic modifications to be licensed.¹⁵ Unlike food that would be eaten, biological products include those involved in “the prevention, treatment, or cure of a disease or condition of human beings.”¹⁶ Examples of biological products include antitoxins, viruses, therapeutic serums, vaccines, blood, and proteins.¹⁷ The FDA also requires drugs to be tested for safety and effectiveness regardless of genetic modification.¹⁸ Likewise, the U.S. Environmental Protection Agency (EPA) requires that all pesticides be registered before they can be distributed commercially.¹⁹

2. *History and Growth of the Use of GMOs*

GMO products were sold in supermarkets starting in 1994²⁰ when the FDA determined the Flavr Savr tomato was “as safe as other commonly consumed tomatoes.”²¹ Calgene, Inc. voluntarily submitted Flavr Savr tomatoes to the FDA for an advisory opinion about whether they would be subject to the same regulation as other tomatoes.²² The FDA treated the request as a consultation in accordance with its 1992 policy statement about food derived from new plant varieties.²³ In accordance with the 1992 statement, the Flavr Savr tomatoes could be treated the same as other tomatoes without requiring additional labeling because there was no difference in safety.²⁴

The genetically modified Flavr Savr tomato could stay ripe and fresh longer than conventional tomatoes and was in high demand following its

13. *Id.* at Section IV.B.1.

14. Statement of Policy: Foods Derived from New Plant Varieties, 57 Fed. Reg. 22,984, 22,991 (May 29, 1992). The FDA itself acknowledged this stance as recently as 2015. Voluntary Labeling Indicating Whether Food Has or Has Not Been Derived From Genetically Engineered Atlantic Salmon; Draft Guidance for Industry: Availability, 80 Fed. Reg. 73,193, 73,194 n.1 (Nov. 24, 2015).

15. Acosta, *supra* note 11, at Part III(B)(3).

16. 42 U.S.C.A. § 262(i)(1) (2012).

17. *Id.*

18. Acosta, *supra* note 11, at Section III.B.4.

19. *Id.* at Section III.C.1.

20. G. Bruening & J.M. Lyons, *The Case of the FLAVR SAVR Tomato*, 54 CAL. AGRIC. 6, 6–7 (2000).

21. U.S. FOOD & DRUG ADMIN., AGENCY SUMMARY MEMORANDUM RE: CONSULTATION WITH CALGENE, INC., CONCERNING FLAVR SAVR™ TOMATOES (1994).

22. *Id.*

23. *Id.*

24. *Id.*; see Statement of Policy: Foods Derived from New Plant Varieties, 57 Fed. Reg. 22,984, 22,991 (May 29, 1992).

release.²⁵ Over 1.8 million cans of Flavr Savr tomato paste were sold in chains such as Safeway and Sainsbury's between 1996 and 1999.²⁶ However, in 1998 sales dropped, and grocery store chains switched to house brands that were not genetically engineered.²⁷ The switch was made to satisfy customer concerns and not because of any identified safety problem.²⁸

In 1995 the EPA approved the first pesticide-producing crop,²⁹ which is a plant with the genetic ability to produce its own pesticide and control pests when they feed on the plant.³⁰ The EPA approval also marked the beginning of more widespread use of GMO crops such as Bt (*bacillus thuringiensis*, a naturally occurring bacteria) pesticide protein crops.³¹ Since the emergence of GMO crops there has been decreased use of synthetic pesticides that can contaminate groundwater, increase herbicide tolerant crops, increase crop yield, and increase crop quality.³² Planting acreage of genetically engineered crops in the United States has sharply risen over the last few decades.³³ In 2012, U.S. GMO crops made up approximately 88 percent of corn, 94 percent of cotton, and 93 percent of soybean plantings.³⁴

25. Bruening & Lyons, *supra* note 20, at 6–7.

26. *Id.* at 7.

27. *Id.*

28. *Id.*

29. Gabriel Rangel, *From Corgis to Corn: A Brief Look at the Long History of GMO Technology*, HARV. U. GRADUATE SCH. ARTS & SCI.: SITN (Aug. 9, 2015), <http://sitn.hms.harvard.edu/flash/2015/from-corgis-to-corn-a-brief-look-at-the-long-history-of-gmo-technology/> [https://perma.cc/994V-X8MK].

30. U.S. ENVTL. PROT. AGENCY, OVERVIEW OF PLANT INCORPORATED PROTECTANTS (2016), <https://www.epa.gov/regulation-biotechnology-under-tsca-and-fifra/overview-plant-incorporated-protectants> [https://perma.cc/9RPD-MVHS].

31. *Id.*

32. U.S. DEP'T OF AGRIC., BIOTECHNOLOGY FREQUENTLY ASKED QUESTIONS (FAQS) (2016), <http://www.usda.gov/wps/portal/usda/usdahome?navid=AGRICULTURE&contentid=BiotechnologyFAQs.xml> [https://perma.cc/ZQN8-QEL5].

33. U.S. DEP'T OF AGRIC., RECENT TRENDS IN GE ADOPTION (2016), <https://www.ers.usda.gov/data-products/adoption-of-genetically-engineered-crops-in-the-us/recent-trends-in-ge-adoption.aspx> [https://perma.cc/LB5Y-2K37].

34. U.S. DEP'T OF AGRIC., BIOTECHNOLOGY FREQUENTLY ASKED QUESTIONS (FAQS) (2016).

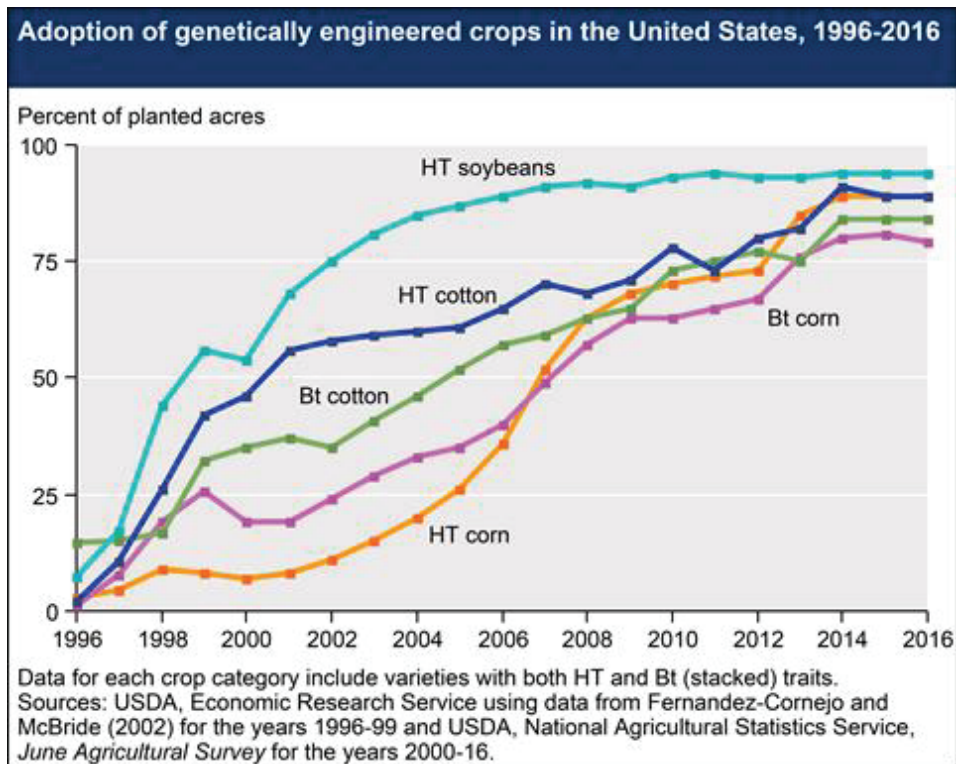
Figure 1: GMO trends over the past two decades³⁵

Figure 1 crops denoted by “Bt” are crops that contain a pesticide producing gene from the *Bacillus thuringiensis* soil bacteria. HT indicates that the crop is herbicide-tolerant, meaning that it has the genetic ability to survive specific herbicides that would otherwise kill the crop.

B. ARGUMENTS IN FAVOR OF GMO LABELING

As GMOs became more widespread over the past decade, the focus of most of the policy debate in the United States has been on labeling.³⁶ Proponents of labeling requirements for GMOs have argued that people have a right to know what they are consuming and should be informed before purchasing any product containing GMOs.³⁷ Knowing whether

35. U.S. DEP’T OF AGRIC., RECENT TRENDS IN GE ADOPTION (2016).

36. See, e.g., The Editors, *Labels for GMO Foods Are a Bad Idea*, SCI. AM. (Sept. 1, 2013), <https://www.scientificamerican.com/article/labels-for-gmo-foods-are-a-bad-idea/> [<https://perma.cc/N9FN-ACDY>] (highlighting how the wide consumption of GMOs in the United States has caused a debate on whether GMOs should be labeled).

37. See, e.g., *Senator Stabenow and Senator Roberts GMO Labeling Legislation*, JUST LABEL IT!, <http://www.justlabelit.org/dark-act/> [<https://perma.cc/8JE8-8MFQ>].

GMOs are part of a food product could influence consumers with a religious objection to genetically changing organisms, consumers who are concerned that cross-contamination could affect the marketability of other crops, or those who fear the unknown long term effects of consuming GMOs.³⁸

One specific concern is that increasing reliance on GMOs could decrease the planet's overall genetic diversity.³⁹ If GMO products produce higher returns, food producers could rely on those few efficient strains.⁴⁰ Without sufficient genetic diversity, the limited crop strains could be compromised and result in future crop devastation, like Ireland's over reliance on genetically uniform potatoes that resulted in the potato famine.⁴¹

Besides potential health and biodiversity concerns, opponents of GMOs also raise concerns about the economic incentives for companies that produce GMOs.⁴² Colin Tudge questions whether GMOs really produce more insect resistant and nutritious crops, offering non-GMO alternatives such as proper garden cultivation and management (also known as horticulture) as healthier ways to produce food.⁴³ He thinks GMOs are a way for businesses to make greater profit by pressuring the government to support them.⁴⁴ With the GMO market dominated by "just a few very big companies," the incentive is to monopolize the market instead of actually producing good food.⁴⁵

Additionally, opponents of GMOs argue that long term consequences are unknown at this point.⁴⁶ There might be a risk of increased food allergies when unknown quantities of GMOs are introduced to the food supply.⁴⁷ Between 1997 and 2007, the same time genetically engineered foods became more prevalent, food allergies increased by eighteen percent.⁴⁸ Although not clear causation, the correlation between use of GMOs and

38. See H. 112, 2014 Gen. Assemb., Reg. Sess. (Vt. 2014) (detailing the purpose of Vermont's genetic engineering labeling law).

39. Darren Smits & Sean Zaboroski, *GMOS: Chumps or Champs of International Trade?*, 1 ASPER REV. INT'L BUS. & TRADE L. 111, 114 (2001); Sommer Jenkins, *Genetic Engineering and Seed Banks: Impacts on Global Crop Diversity*, 9 MACQUARIE J. INT'L & COMP. ENVTL. L. 67, 67–68 (2013).

40. Smits, *supra* note 39, at 114.

41. *Id.*; Jenkins, *supra* note 39, at 67–69.

42. Mark Lynas & Colin Tudge, *GMOS: A Solution or a Problem?*, 67 J. INT'L AFFS. 131, 136–37 (2014).

43. *Id.* at 137–38.

44. See *id.* at 136–37.

45. *Id.* at 136.

46. Richard Dahl, *To Label or Not to Label: California Prepares to Vote on Genetically Engineered Foods*, 120 ENVTL. HEALTH PERSP. 358, 360 (2012).

47. See *id.*

48. *Id.*

food allergies suggests that there could be health risks associated with consuming GMOs.⁴⁹ Consumers should be aware of that uncertainty and have the ability to select against those food products with potential risks by having genetically engineered food labeled.⁵⁰

Finally, proponents of GMO labeling point to unintended environmental effects, such as herbicide resistant weeds, as a reason to require labeling.⁵¹ Some GMOs have been engineered to be genetically resistant to herbicides such as the powerful Roundup herbicide.⁵² The extensive use of Roundup might have accelerated the growth of herbicide resistant weeds.⁵³ Consequentially, farmers would need to use other herbicides or remove the weeds manually which goes against the purpose of creating Roundup-resistant GMOs.⁵⁴

C. PRIOR FEDERAL TREATMENT OF GMO LABELING

Before the National Bioengineered Food Disclosure Law, food manufacturers could participate in a voluntary labeling program to indicate whether food products had been derived from genetically engineered plants.⁵⁵ Separate from the voluntary genetically engineered program, a product could also be labeled as organic.⁵⁶ The United States Department of Agriculture (USDA) requires that there be no GMOs used in the process of creating a labeled organic food.⁵⁷ This means that animals cannot eat GMO crops, no GMO ingredients can be used to create the final food, and that there must be a buffer zone between organic and GMO crops.⁵⁸

In 1992 the FDA published a policy stance on biotechnology and foods derived from new plant varieties.⁵⁹ At the time the FDA “ha[d] not

49. *See id.*

50. *Id.*

51. Jonathan H. Adler, *How Not to Label Biotech Foods*, 36 THE NEW ATLANTIS 37, 37 (2012).

52. *Id.*

53. *Id.*

54. *Id.*

55. See U.S. FOOD & DRUG ADMIN., GUIDANCE FOR INDUSTRY: VOLUNTARY LABELING INDICATING WHETHER FOODS HAVE OR HAVE NOT BEEN DERIVED FROM GENETICALLY ENGINEERED PLANTS (2016), <http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm059098.htm> [<https://perma.cc/X76D-W96L>].

56. U.S. DEPT. OF AGRIC., *Can GMOs Be Used in Organic Products?* (2013), <https://www.ams.usda.gov/sites/default/files/media/Can%20GMOs%20be%20Used.pdf> [<https://perma.cc/M46D-AV6X>] (explaining the requirements for organic labeling).

57. *Id.*

58. *Id.*

59. Statement of Policy: Foods Derived from New Plant Varieties, 57 Fed. Reg. 22,984, 22,991 (May 29, 1992)

considered the methods used in the development of a new plant variety . . . to be material information” that would require a label.⁶⁰ The FDA stated they “[were] not aware of any information” that shows foods derived from biotechnology present “any different or greater safety concern than foods developed by traditional plant breeding.”⁶¹ Recent statistical studies suggest the likelihood of GMO products causing harm is at best weak evidence that cannot be distinguished from pure chance.⁶² Groups such as the American Association for the Advancement of Science have also determined that “crop improvement by the modern molecular techniques of biotechnology is safe.”⁶³

D. PRIOR STATE APPROACHES TO LABELING GMOS

Before the National Bioengineered Food Disclosure Law was enacted, several states created bills aimed at regulating labeling for GMOs.⁶⁴ While some of the state GMO labeling bills were defeated, three states (Connecticut, Maine, and Vermont) successfully passed GMO labeling laws.⁶⁵ The following Sections describe similarities between state approaches including the purpose of the laws, and how those laws would be enacted. The last Section connects the timing of state legislation with the development of the federal GMO labeling legislation.

1. *Similarities Between State Laws*

While there are some differences between the enacted state laws, they share several key features. First, all three required labeling for food produced with genetic engineering, with “clear and conspicuous” labels.⁶⁶ No laws allowed the use of electronic disclosure such as a QR code or link

60. *Id.* (section VI on labeling).

61. *Id.*

62. Alexander Y. Panchin & Alexander I. Tuzhikov, *Published GMO Studies Find No Evidence of Harm When Corrected for Multiple Comparisons*, 37 CRITICAL REVIEWS IN BIOTECH. 213, 213 (2016), [http://www.tandfonline.com/doi/full/10.3109/07388551.2015.1130684?src=recsys& \[https://perma.cc/FA8C-Q3PU\]](http://www.tandfonline.com/doi/full/10.3109/07388551.2015.1130684?src=recsys&[https://perma.cc/FA8C-Q3PU]).

63. *Statement by the AAAS Board of Directors On Labeling of Genetically Modified Foods*, AM. ASS'N FOR THE ADVANCEMENT OF SCI. (Oct. 20, 2012), <https://www.aaas.org/news/statement-aaas-board-directors-labeling-genetically-modified-foods> [<https://perma.cc/Q7UF-K5LU>].

64. H.R. REP. NO. 114-208, at 11 (2015) (detailing the concerns of the House with requiring GMO labeling).

65. *Id.*

66. *See* ME. REV. STAT. ANN. tit. 22, § 2593(1) (2013) (setting out Maine’s disclosure requirement that labeling be conspicuous); CONN. GEN. STAT. ANN. § 21a-92c (West 2013). (requiring clear and conspicuous words); VT. STAT. ANN. tit. 9, § 3043 (West 2013) (requiring clear and conspicuous words).

to a website.⁶⁷ Additionally, the labeling requirement would not extend to products “derived from an animal that was not genetically engineered but was fed genetically engineered food.”⁶⁸

2. *Purposes of State Labeling Laws*

While the Connecticut and Maine bills do not explicitly mention the reasoning for their labeling laws, Vermont’s bill is very clear about its purposes. The Vermont bill first points to public opinion polls to show that a “a large majority of Vermonters want foods produced with genetic engineering to be labeled as such.”⁶⁹ Other polling from the New York Times suggests that people think labelling would “reduce consumer confusion or deception regarding the food they purchase.”⁷⁰ Another reason Vermont thought it was important to inform consumers was to allow people “to conform to religious beliefs and comply with dietary restrictions.”⁷¹ Aside from consumer choice considerations, Vermont’s bill sought to protect the environment and people from “potential health risks of food produced from genetic engineering.”⁷² A Colorado proposition that did not pass was entitled the “Colorado Right to Know Act” and used the same economic, religious, and safety considerations as the Vermont bill.⁷³ Maine alluded to similar purposes in calling its bill “An Act To Protect Maine Food Consumers’ Right To Know about Genetically Engineered Food and Seed Stock.”⁷⁴

3. *Maine and Connecticut Enactment Requirements*

Unlike Vermont’s law, which took effect on May 8, 2014 when it was signed by the Governor,⁷⁵ both the Maine and Connecticut laws had provisions that restricted when the law would come into effect.⁷⁶ For

67. See ME. REV. STAT. ANN. tit. 22, § 2593(1) (2013); CONN. GEN. STAT. ANN. § 21a-92c (West 2013); VT. STAT. ANN. tit. 9, § 3043 (West 2013).

68. H.R. 718, 126th Leg., 1st Reg. Sess. (Me. 2013).

69. H. 112, 2014 Gen. Assemb., Reg. Sess. (Vt. 2014).

70. *Id.* § 1(5)(B).

71. *Id.* § 1(5)(D).

72. VT. STAT. ANN. tit. 9, § 3041(1) (West 2013).

73. See Proposition 105 (Colo. 2014), [http://www.leg.state.co.us/LCS/Initiative%20Referendum/1314InitRefr.nsf/acd7e51d3fc2b60b87257a3700571f9f/73677eb31474260a87257cd0004d9bad/\\$FILE/Proposition%20105%20Merged.pdf](http://www.leg.state.co.us/LCS/Initiative%20Referendum/1314InitRefr.nsf/acd7e51d3fc2b60b87257a3700571f9f/73677eb31474260a87257cd0004d9bad/$FILE/Proposition%20105%20Merged.pdf) [https://perma.cc/P6D5-W2P9]. Proposition 105 was a voter initiative that did not pass. When signatures were being collected the title of the document was the Colorado Right to Know Act which was then accepted for the ballot and designated as proposition 105.

74. H.R. 718, 126th Leg., 1st Reg. Sess. (Me. 2013).

75. H. 112, 2014 Gen. Assemb., Reg. Sess. (Vt. 2014).

76. See H.R. REP. NO. 114-208, at 11–12 (2015).

example, Maine's contingent effective date is based on "when legislation substantially similar to this Act has been adopted in at least 5 other states," or when states with a combined population of twenty million people adopt such a law.⁷⁷ Connecticut also requires both that four other states in the northeast region have similar laws and that over twenty million people are covered by those laws.⁷⁸

The Maine and Connecticut provisions would have prevented a patchwork of different state requirements in the Northeast region. That does not mean that other areas of the country would have the same labeling requirements. The fact that the Maine and Connecticut laws had a contingency for when they would be effective shows an intent to have uniformity in the area. The two states identified a balance between providing information about how food is made for consumers and uniformity.⁷⁹ Because the contingency provisions were not met with sufficient states or population, neither the Maine nor Connecticut bills ever took effect.⁸⁰

4. *Timeline and Development of the Federal Labeling Requirement*

While the states were enacting labeling laws, in 2014 Congress started working on a law that would provide uniformity through federal preemption of state labeling laws.⁸¹ One version of the law, House Report 1599, contained a preemption provision along with a voluntary program for GMO crops that were not materially different, such as crops with different nutritional characteristics or allergenicity, the disclosure of which would be "necessary to protect public health."⁸² The proposed voluntary program would have allowed the FDA to evaluate processes and crops that utilize GMOs.⁸³ The FDA could have required a label if the genetic modification created a "material difference" between the non-GMO version and was "necessary" to protect the public health.⁸⁴ Food would not be required to be

77. H.R. 718, 126th Leg., 1st Reg. Sess. (Me. 2013) (detailing the Maine labeling law's contingent effective date and contingent repeal in 2033 if the requirement has not been met).

78. CONN. GEN. STAT. ANN. § 21a-92c (West 2013).

79. *See id.*; ME. REV. STAT. ANN. tit. 22, § 2593 (2013).

80. *See* ME. REV. STAT. ANN. tit. 22, § 2593 (2013); CONN. GEN. STAT. ANN. § 21a-92c (West 2013).

81. *See* H.R. REP. NO. 114-208, at 11–12 (2015).

82. H.R. 1599, 114th Cong. (2015).

83. *Id.* § 424(a) (referring to the FDA's 1992 policy statement).

84. *Id.* § 424(b)(2).

labeled just because it was made from GMOs under House Report 1599.⁸⁵ Similar to the voluntary organic program, House Report 1599 would have allowed a voluntary genetically engineered food certificate.⁸⁶ The certificate would allow for the labeling of non-GMOs if the food could be processed and handled “in compliance with a genetically engineered food plan.”⁸⁷

According to the Committee on Agriculture’s Report accompanying House Report 1599, the major goals of the bill were to create uniformity, and prevent consumer misunderstanding.⁸⁸ The Report stated that “[s]tate labeling initiatives would produce a state-by-state patchwork of laws that lead to misinformation and confusion for consumers as well as costly disruptions to the food supply chain.”⁸⁹ The creators of the bill argued that “[b]y ensuring that food labeling is the sole purview of the federal government, the bill guarantees that state labeling mandates do not mislead and misinform consumers.”⁹⁰

With the possibility of a federal labeling law for GMOs, many food manufacturers, such as the Grocery Manufacturer’s Association (GMA), spent time and effort pushing for a law that would create more uniformity.⁹¹ GMA President and CEO Pamela Bailey highlighted that a federal law “would eliminate consumer uncertainty created by a state-by-state patchwork of labeling laws, advance food safety, inform consumers and provide consistency in labeling.”⁹² She explained that “[t]he alternative—a patchwork of state and local food laws across the country with different labeling mandates and requirements—will create confusion, cause significant new costs for Americans, and lead to critical problems for our nation’s grocery supply chain.”⁹³ Other food companies such as Campbell Soup Company started to push for a federal labeling law in early 2016.⁹⁴ Campbell opposed “a patchwork of state-by-state labeling laws, which it

85. *Id.* § 424(b)(1).

86. *Id.* § 291B.

87. *Id.* § 291B(a)(1).

88. *See* H.R. REP. NO. 114-208, at 11–12 (2015).

89. *Id.* at 11.

90. *Id.* at 12.

91. Press Release, Grocery Manufacturer’s Association, GMA Praises Introduction of National Food Labeling Bill (Mar. 25, 2015), <http://www.gmaonline.org/news-events/newsroom/gma-praises-introduction-of-national-food-labeling-bill/> [<https://perma.cc/7CHL-W64N>] (advocating for a national food labeling bill for GMOs).

92. *Id.*

93. *Id.*

94. Press Release, Campbell Soup Co., Campbell Announces Support for Mandatory GMO Labeling (Jan. 7, 2016), <http://investor.campbellsoupcompany.com/phoenix.zhtml?c=88650&p=irol-newsArticle&ID=2127542%20> [<https://perma.cc/RV79-VKZG>].

believed were incomplete, impractical and create unnecessary confusion for consumers.”⁹⁵

This debate and the failed House Report 1599 set the stage for Senate Bill S. 764, which ultimately passed. Different stances on labeling GMOs and the increased importance of implementing policy drove both states and the federal government to pass legislation.

II. SUMMARY OF THE FEDERAL GMO LABELING LAW

The National Bioengineered Food Disclosure Law,⁹⁶ S. 764, is the first federal law requiring food containing GMOs to be labeled. The bill details what types of foods are covered, how products need to be labeled, and how the Secretary of Agriculture will implement the new program.⁹⁷ S. 764 gives the USDA a substantial role in implementing the new labeling law.⁹⁸ This Part provides an overview of what the federal GMO labeling law does by focusing on how products could be labeled and how the federal law preempts state law.

In general, the GMO labeling law requires that foods made from bioengineering have a label indicating so.⁹⁹ The definition of bioengineered food excludes animals that have not been genetically altered themselves, but that have consumed GMO crops.¹⁰⁰ The label can be written on the packaging or in the form of an electronic link such as a QR code that can be scanned.¹⁰¹ Additionally, the federal GMO labeling law preempts all state GMO labeling laws unless they are identical to the federal law.¹⁰² The federal GMO labeling law does not, however, prevent states from having and enforcing their own remedies for violations of the federal law.¹⁰³

The USDA has issued several memos and policy statements that provide direction as to how the law will be implemented.¹⁰⁴ For example, the USDA issued a policy statement that no food certified as organic will require a

95. *Id.*

96. S. Res. 764, 114th Cong. (2016) (enacted).

97. *See* 7 U.S.C.A. § 1639 (West 2016).

98. *Congress Passes Legislation Mandating a National Bioengineered Food Disclosure Standard: Five Things You Need to Know*, SIDLEY (July 21, 2016), <http://www.sidley.com/news/07-21-2016-environmental-update> [<https://perma.cc/9RCY-596R>] (explaining key aspects of the Federal GMO labeling law).

99. 7 U.S.C.A. § 1639b(b)(2)(D).

100. *Id.* § 1639b(b)(2)(A).

101. *Id.* § 1639b(b)(2)(D).

102. *Id.* § 1639b(e); 7 U.S.C.A. § 1639i.

103. 7 U.S.C.A. § 1639j.

104. *E.g.*, U.S. DEP'T OF AGRIC., *GMO DISCLOSURE & LABELING* (2017) <https://www.ams.usda.gov/rules-regulations/gmo> [<https://perma.cc/9AEU-Z3AV>].

GMO label, since by definition a food that can be labeled as organic is not classified as a bioengineered food, and that no proposed rules will require modification of the organic certification rules.¹⁰⁵ Additionally, the USDA has sent preemption letters to the governors of each state suggesting that states look at the federal law before attempting to make any labeling laws for GMOs and that the state laws must adopt standards “identical to the national bioengineered food disclosure standard.”¹⁰⁶ Two particularly important provisions of the National Bioengineered Food Disclosure Law concern electronic disclosure and federal preemption.

A. ELECTRONIC DISCLOSURE STANDARD

The method of disclosure provision, § 1639b(b)(2)(D), specifies how foods containing GMOs must be labeled.¹⁰⁷ It states that “the form of a food disclosure under this section be a text, symbol, or electronic or digital link, but excluding Internet website Uniform Resource Locators not embedded in the link, with disclosure option to be selected by the food manufacturer.”¹⁰⁸ Textually, there are three pieces of information in the method of disclosure provision: (1) what disclosures are permissible, (2) restrictions to permissible disclosures, and (3) who decides how to label the product.

The disclosure required by National Bioengineered Food Disclosure Law can be text, which is also the form of labeling for cigarettes.¹⁰⁹ Cigarette labels must be in text, contain nine different warnings including “WARNING: Cigarettes cause fatal lung disease,” and must be in a conspicuous place.¹¹⁰ The cigarette label is required to be on every package of cigarettes and must be “in a manner that contrasts” the typography, layout, or color of all other printed matter.¹¹¹ GMOs can be labeled by text, but the act does not specify how this text must be presented or what it has

105. Memorandum from Elanor Starmer, Administrator, U.S. Department of Agriculture, to AMS Deputy Administrators (Sept. 19, 2016), <https://www.ams.usda.gov/sites/default/files/media/PolicyMemoGMODisclosureNOPConsistency.pdf> [<https://perma.cc/86N5-QRNU>].

106. *E.g.*, Letter from Edward Avalos, Under Secretary, U.S. Dep’t of Agric. Marketing and Regulatory Programs, to Bill Walker, Governor of Alaska (Aug. 1, 2016) <https://www.ams.usda.gov/sites/default/files/media/GMOExemptionLettersto50Governors.pdf> [<https://perma.cc/6AAR-NDA6>] (cautioning states from passing their own laws that might conflict with the preemption provisions within the new national law).

107. 7 U.S.C.A. § 1639b(b)(2)(D).

108. *Id.*

109. 15 U.S.C. § 1333 (2012) (specifying how text of cigarette labeling should appear and what it should say).

110. *Id.*

111. *Id.*

to say,¹¹² which is starkly different than other labeling regimes where every detail about the label is included within the statute.¹¹³

Alternatively, the disclosure for bioengineered foods can be in the form of an “electronic or digital link.”¹¹⁴ Because the statute uses the word “or,” both a textual and electronic version of labeling are not required.¹¹⁵ The method of disclosure provision prohibits electronic or digital links with “Internet website Uniform Resource Locators not embedded in the link.”¹¹⁶ At first glance it is unclear what is meant by this qualification to the electronic disclosure requirement.

However, other language in the disclosure section suggests that an electronic disclosure must be able to be scanned, instead of only a static URL that must be separately typed in to a browser to view.¹¹⁷ The disclosure requirement must be “in accordance” with subsection (d) which outlines additional disclosure requirements.¹¹⁸ For example, there must be on-package language that accompanies the electronic disclosure stating “Scan here for more food information.”¹¹⁹ Similarly, the electronic disclosure must be of sufficient size “to be easily and effectively scanned or read by a digital device.”¹²⁰ Both instructions clarifying the electronic disclosure show that it needs to be scannable, such as through a QR code. If a disclosure requires someone to type in a URL on their phone, the digital link would not be scanned and would not meet the requirements under the disclosure standard.¹²¹

The last important part of the method of disclosure provision is that food manufacturers control what method of labeling they wish to use.¹²² This means that comparable products from different manufacturers could be labeled in a different way. Or even that different products from a single manufacturer could be different. While some might have a symbol, others could use text or an electronic disclosure. Cereal could be labeled differently from frozen pizza, which could be labeled differently from a

112. 7 U.S.C.A. § 1639b(2)(D).

113. 15 U.S.C. § 1333.

114. 7 U.S.C.A. § 1639b(2)(D). While the statute also mentions a symbol as a labeling option there is no guidance or information in the statute about what would constitute an adequate disclosure using a symbol.

115. *Id.*

116. *Id.*

117. *Id.* § 1639b(d).

118. *Id.* § 1639b(b)(2)(D).

119. *Id.* § 1639b(d)(1)(A).

120. *Id.* § 1639b(d)(5).

121. *See id.* §§ 1639b(b)(2)(D), (d).

122. *Id.* § 1639b(b)(2)(D).

bottle of oil. Additionally, the USDA can not require manufacturers to use one specific labelling option under the statute.¹²³

The legislation recognizes the possibility that electronic disclosures may not be effective for all consumers such as people without phones capable of scanning or inputting the electronic disclosure.¹²⁴ Section 1639b(c)(1), the electronic study requirement, states that “[n]ot later than 1 year after the date of enactment of this subtitle, the Secretary [of Agriculture] shall conduct a study to identify potential technological challenges that may impact whether consumers would have access to the bioengineering disclosure through electronic or digital disclosure methods.”¹²⁵ As part of the study, the Secretary will consider the availability of wireless Internet or cellular networks, landline telephones in stores, challenges for small or rural retailers, and the costs and benefits of installing digital link scanners in stores that could provide disclosure information.¹²⁶ If the study shows that consumers do not have sufficient access to the bioengineering disclosure through electronic or digital means, the Secretary “shall provide additional and comparable options to access the bioengineering disclosure.”¹²⁷

The electronic study requirements put the text of the disclosure provision into context. While electronic or digital disclosures are allowed, the study includes safeguards to ensure that this particular method of disclosure can provide information to consumers. It also means that electronic disclosures could be subject to change either in what is required of the label, or in how smaller retailers handle the technological aspect of the disclosure.

There are no explicit justifications for the electronic disclosure requirement. However, the House Report for a previous version of the bill details reasoning for why there should be a federal labeling requirement which sheds light on why the electronic disclosure might have been added to the National Bioengineered Food Disclosure Law.¹²⁸ The House Report for the earlier bill focuses on economic reasons for why GMOs should be labeled at the federal level such as ease and cost for manufacturers,¹²⁹ but does not consider consumer-related rationales of informational knowledge

123. *See id.*

124. *See id.* § 1639b(c)(1).

125. *Id.*

126. *Id.* § 1639b(c)(3).

127. *Id.* § 1639b(c)(4).

128. *See* H.R. REP. NO. 114-208, at 11–12 (2015) (explaining the reasoning for provisions of H.R. 1599 which was later amended and passed as S. 764).

129. *See id.*

or making informed decisions.¹³⁰ The earlier version of the law did not focus on consumer information or allowing consumers to make informed decisions.¹³¹ The electronic disclosure could be seen as a way to address the economic concerns of cost for manufacturers to produce food—which Congress seems to care about. At the same time, this may not be helpful to consumers seeking information—which Congress does not seem to care about.¹³² Even though Congress does not appear concerned about consumer information or making informed choices, it included the electronic disclosure study as a safety valve to appease those who want plain textual disclosure by establishing a future study into the effectiveness of electronic disclosure.

B. STATE PREEMPTION PROVISIONS

Section 1639b(e), the bioengineered preemption, and § 1639i(b), the genetically engineered preemption, are the two federal preemption provisions within the National Bioengineered Food Disclosure Law that restrict state GMO labeling.¹³³ But why are there two separate state preemption provisions instead of just one? Section 1639b(e) uses the specific language of the federal labeling law to preempt state laws, while § 1639i(b) uses a broader scope of preemption based on language used within existing state laws to prevent states from undermining the federal law with different labeling standards.¹³⁴ This Section analyzes the two separate preemption provisions and their impact on state GMO labeling laws. It also demonstrates the connection between legislative reasoning to pass the bill and how the preemption was implemented.

1. *Textual Analysis of the Two Provisions*

Section 1639b(e) prohibits states from establishing “any requirement” of labeling “whether a food is bioengineered or was developed or produced using bioengineering,” when the food is already subject to regulation by S. 764, unless such labeling requirement is “identical” to that required by S. 764.¹³⁵ The use of the word “any” shows that the restriction is absolute.¹³⁶ Preemption applies to all labeling of bioengineered food as defined by the federal labeling statute. This federal preemption restricts state labeling laws for bioengineered foods so that they must be “identical” to the federal

130. *See id.*

131. *See id.*

132. *See id.*

133. 7 U.S.C.A. §§ 1639(e), 1639i(b) (West 2016).

134. *Id.*

135. *Id.* § 1639b(e).

136. *See id.*

law.¹³⁷ States are not allowed to have any additional labeling restrictions for bioengineered food other than what the federal law imposes.¹³⁸ If the statute requires that a food be labeled because it falls into the definition of “bioengineered food,” states are preempted from any different labeling.¹³⁹

The second preemption provision, § 1639i, has similar restrictions to the bioengineered preemption, but uses broader language and targets the language used in prior State GMO labeling laws.¹⁴⁰ This second preemption provision states that no state can establish “any requirement relating to the labeling of whether a food . . . or seed is genetically engineered.”¹⁴¹ The term “genetically engineered” explicitly includes “other similar terms” under § 1639i.¹⁴² Additionally, the state preemption applies to food or seeds “developed or produced using genetic engineering.”¹⁴³ Unlike the bioengineered preemption in § 1639b(e), § 1639i adds “other similar terms” which serves as a catchall for other forms of food modification related to “genetically engineered.”¹⁴⁴ However, the “other similar terms” language is not part of the bioengineered preemption, most likely because the genetically engineered preemption was written based on the language used in existing State GMO labeling laws.¹⁴⁵

The language of § 1639i matches the “genetically engineered” wording that Maine, Connecticut and Vermont used to define GMOs subject to labeling.¹⁴⁶ Because the genetically engineered preemption uses the same language as the state laws, that provision should be understood to preempt the prior state laws more specifically. The preemption of state laws is stronger when the language is more encompassing, so it makes sense that “other similar terms” appears only in the genetically engineered provision.¹⁴⁷ Including both provisions for preemption ensures that existing

137. *Id.*

138. *Id.* § 1639b(e).

139. *Id.* § 1639a(a).

140. *Id.* §§ 1639b(e), 1639i(b).

141. *Id.* § 1639i(b).

142. *Id.*

143. *Id.*

144. *See Id.* §§ 1639b(e), 1639i(b).

145. *See id.*

146. *Compare Id.* § 1639i(b) (preempting state laws using the “genetically engineered” wording and other similar terms), *with* ME. REV. STAT. ANN. tit. 22, § 2592 (2013) (defining “genetically engineered” products subject to the law), *and* CONN. GEN. STAT. ANN. § 21a-92b (West 2013) (defining “genetically engineered” products), *and* VT. STAT. ANN. tit. 9, § 3042 (West 2013) (defining “genetically engineered” products).

147. *See* § 1639i(b).

state GMO labeling law is not enforceable while protecting the new provisions and requirements in S. 764.

2. *Legislative History Concerns Match the Resulting Preemption Provisions*

The legislative history from the House Report outlines several considerations that are reflected in the two preemption provisions.¹⁴⁸ One of the main concerns of the House was to create “national uniformity regarding labeling of foods derived from genetically engineered plants.”¹⁴⁹ They thought that “a patchwork of conflicting State or local labeling laws” would “inherently interfere with interstate and foreign commerce.”¹⁵⁰

The law’s legislative history suggests that food supply chain stakeholders would suffer economically if different states had varying labeling laws for GMOs.¹⁵¹ For example, farmers would have to segregate genetically engineered crops from non-engineered crops and create additional transport routes for each type of crop.¹⁵² Additionally, there are sometimes errors in the supply chain that are not the fault of the manufacturer, but which could result in manufacturer fines.¹⁵³ If each state were to have a different labeling requirement that would also mean more effort and money to accommodate different packaging needs. Ultimately the House was concerned that patchwork state requirements would be more difficult for farmers and manufacturers causing prices to increase for consumers.¹⁵⁴

The way to avoid economic concerns for food producers would be to ensure that all states had to follow the same guidelines. That is what the preemption sections of S. 764 require.¹⁵⁵ With only one federal labeling requirement the “costly price hikes associated with a patchwork of state labeling laws” can be avoided.¹⁵⁶

The federal GMO labeling law has a number of provisions for its future implementation, but the intent behind many sections is not immediately clear, similar to the unclear intent of the electronic disclosure option.

148. See H.R. REP. NO. 114-208, at 11–12 (2015) (explaining the reasoning for provisions of H.R. 1599 which was later amended and passed as S. 764).

149. *Id.* at 11.

150. *Id.*

151. *Id.*

152. *Id.* at 11–12.

153. *Id.* at 12.

154. *Id.* at 11–12.

155. See 7 U.S.C.A. §§ 1639b(e), 1639i(b) (West 2016).

156. H.R. REP. NO. 114-208, at 12 (2015).

Analyzing the potential risks of labeling GMOs can provide insight behind the meaning of these sections.

III. DISCUSSION OF HOW THE GMO LABELING LAW FAVORS USE OF GMOS

At first glance, the National Bioengineered Food Disclosure Law seems to satisfy the concerns those who champion uniformity. Groups advocating for the importance of the right to know, such as “Just Label It!”, have deemed S. 764 the “DARK Act,” an acronym for the Deny Americans the Right-to-Know Act.¹⁵⁷ Some analysts have concluded that the act might not cover all GMO foods because the bill only recognized one type of genetic modification technology and a showing that the modification could not be “obtained through natural means or traditional breeding.”¹⁵⁸ States that previously passed GMO labeling laws might also be unhappy with the federal law since the uniformity necessarily preempts their laws.¹⁵⁹ However, uniformity alone does not explain why the electronic disclosure provision was incorporated.

The primary objection to the new federal GMO labeling law appears to be the “ineffective” electronic disclosure to consumers.¹⁶⁰ Polls indicate that over 88 percent of Americans would prefer a textual package label instead of a scannable QR code with separate data on the product’s genetically modified ingredients.¹⁶¹ Arguably, a QR code would require a shift in consumer behavior as well as more widespread smartphone technology. As of February 2016, 33 percent of U.S. adults do not have smartphones.¹⁶² Groups including “Just Label It!” are unhappy with the limitations of the federal labeling law and call into question why the law was framed so cryptically. It would be more straightforward to require clear text or a

157. JUST LABEL IT!, *supra* note 37 (describing information about the National Bioengineered Food Disclosure Act, its potential shortcomings, and the purported pressing need to label all GMO products).

158. Memorandum from Bracewell LLP to Just Label It! (July 1, 2016), <http://4bgr3aepis44c9bxt1ulxsyq.wpengine.netdna-cdn.com/wp-content/uploads/2016/07/Bracewell-Memo-to-JLI.pdf> [<https://perma.cc/HA7M-NZ37>].

159. 7 U.S.C.A. §§ 1639(e), 1639i(b).

160. *See* JUST LABEL IT!, *supra* note 37.

161. Memorandum from The Mellman Group, Inc. to Just Label It! (Nov. 23, 2015), <http://4bgr3aepis44c9bxt1ulxsyq.wpengine.netdna-cdn.com/wp-content/uploads/2015/12/15memn20-JLI-d6.pdf> [<https://perma.cc/N275-6YK4>] (finding people prefer in-text labels for food products).

162. *Evaluation of QR Code Effectiveness for GMO Labeling*, JUST LABEL IT! (Feb. 26, 2016), http://4bgr3aepis44c9bxt1ulxsyq.wpengine.netdna-cdn.com/wp-content/uploads/2016/02/qrcode_effectiveness_deck_022616.pdf [<https://perma.cc/B9NL-SQXM>] (analyzing QR code effectiveness).

symbol identifying bioengineered food directly on the food itself, similar to labels used to identify kosher foods. So why create provisions of electronic disclosure that obstruct access to information?

This Part analyzes the implications of the GMO labeling law. The first Section explains that the labeling requirement provides an *opportunity* to know, and not a *right* to know whether a food product contains genetically modified products. The next Section explores how the required labeling may be a compromise in order to achieve the more desired outcome of a uniform federal labeling regime with state law preemption. The final Section addresses how the law balances competing concerns of informing consumers with preventing misunderstood information, and tends to favor the latter as a better means of protecting consumers.

A. THE LAW'S LABELING REQUIREMENTS PROVIDE AN OPPORTUNITY TO KNOW, NOT A RIGHT TO KNOW

While several of the previous state labeling laws suggest that people have a right to know whether food products are genetically engineered,¹⁶³ the federal law provides at best an opportunity to know, to the dismay of its critics. Since the food manufacturer determines what type of label to use, hypothetically all bioengineered food could have an electronic link.¹⁶⁴ Even though a digital link's bioengineering disclosure must be "in a consistent and conspicuous manner, on the first product information page," looking at a product in the store would not provide any indication of that information.¹⁶⁵ If one of the main goals of the federal GMO labeling law was to ensure consumers' right to know, the information should be easily discernable in the store.

The electronic disclosure could be viewed as a deceptive way to avoid labeling bioengineered foods, but the electronic disclosure study appears to ensure that electronic disclosures provide consumers with the necessary information.¹⁶⁶ However, the timing of the electronic study hinders its ability to be an effective safeguard. For example, the study must be conducted "[n]ot later than 1 year after the date of enactment," but there are no parameters for how long it can take to conduct the study.¹⁶⁷ Similarly,

163. See, e.g., Proposition 105 (Colo. 2014), [http://www.leg.state.co.us/LCS/Initiative%20Referendum/1314InitRefr.nsf/acd7e51d3fc2b60b87257a3700571f9f/73677eb31474260a87257cd0004d9bad/\\$FILE/Proposition%20105%20Merged.pdf](http://www.leg.state.co.us/LCS/Initiative%20Referendum/1314InitRefr.nsf/acd7e51d3fc2b60b87257a3700571f9f/73677eb31474260a87257cd0004d9bad/$FILE/Proposition%20105%20Merged.pdf) [<https://perma.cc/P6D5-W2P9>]; H.R. 718, 126th Leg., 1st Reg. Sess. (Me. 2013).

164. See 7 U.S.C.A. § 1639b(b)(2)(D) (West 2016).

165. *Id.* § 1639b(d)(2).

166. See *Id.* § 1639b(c)(1).

167. *Id.*

even if there are issues with consumers having sufficient access to the disclosure, there is no time-frame of when “comparable options” would have to be implemented.¹⁶⁸ If the focus were on providing a right to know, there could have been a provision stating that if the electronic disclosure is not deemed effective within a certain number of years after the study, then disclosure must be text on the packaging. Because a provision of that nature is missing, this suggests that the electronic study might not provide the best safeguard for a right to know.¹⁶⁹

In reality, the electronic or digital disclosure creates another level of separation between the consumer and the bioengineering information. Assuming that everyone had smartphones that could be used to get to the electronic links and there were no problems accessing the link, people would need to physically take out their phones and scan each product to see the bioengineering disclosure. That requires more effort from the consumer than picking up the product and knowing whether it is partially bioengineered from a clear and conspicuous label. If knowing about the presence of bioengineered products by labeling were taken as a right, Congress would have the incentive to make access as easy as possible. The fact that information is more distant than a direct label suggests that consumers will not have a right to know if a food is bioengineered, but rather the opportunity to know, with additional proactive effort required to obtain such knowledge.

B. REQUIRED LABELING MIGHT BE A COMPROMISE TO ENSURE STATE PREEMPTION

If the goal of the labeling law is not based on the rationale that consumers have the right to know if there are bioengineered products within their food, why would it require labeling of bioengineered foods? A clue to the answer might be found in previous versions of the bill. The earlier House version of the bill, House Report 1599, essentially preempted states from requiring labeling of GMO foods without requiring bioengineered foods to be labeled.¹⁷⁰ However, the proposed version would have retained the voluntary non-GMO labeling policy.¹⁷¹ Opponents of the original House Report 1599 bill, such as James McGovern and Ann Kuster, argued that “[c]onsumers have the right to know what is in their food” and that the bill

168. *See Id.* § 1639b(c)(4).

169. *See Id.* § 1639b(c)(1).

170. *See* H.R. REP. NO. 114-208, at 61 (2015) (dissenting views state: “H.R. 1599 would preempt states from labeling GMO foods and would invalidate existing state laws.”).

171. *Id.* (“It would codify the existing voluntary non-GMO labeling policy that causes confusion among customers.”)

would make it even harder to know as it would take away states' powers to require GMO labeling.¹⁷²

If there were enough people opposed to House Report 1599 on the grounds that it obstructed consumers' rights to know, future versions of the bill were likely amended with these considerations in mind to ensure that it would pass. The S. 764 bill that eventually was signed into law kept the preemption provisions from the earlier House Report 1599, but added the labeling requirement,¹⁷³ likely in an effort to appease earlier criticisms.

C. MISLEADING INFORMATION CAN NEGATIVELY AFFECT CONSUMERS

The new federal GMO labeling bill has provisions for electronic disclosure that address the risk of consumers being misled by textual labeling. If the emphasis of the federal bill was on label uniformity there would have been no need to adjust the labeling requirements from the direct label information required by prior state laws. However, rather than just adopt the standards used by state GMO laws, Congress added the option of electronic or digital disclosure.¹⁷⁴ This intentional departure from the states' labeling requirement suggests that the interest in not misleading consumers is a significant emphasis of the law.¹⁷⁵ House Report 1599 notes that with GMOs “[t]here is a great deal of misinformation that can be confusing to consumers and policymakers alike.”¹⁷⁶ The report argues that there is a “need” for bioengineered foods given the growing population and the cost to produce food.¹⁷⁷

This Section explains how information on labels can lead consumers to make incorrect assumptions. The connection is highlighted with several examples of labeling that affected product availability and consumer behavior. Further, an explanation of informational cascades illuminates how people can be led to faulty assumptions, and how these faulty assumptions can develop from required GMO labeling.

1. *Labels on Food Can Mislead Consumers*

Food labels are a source of information that consumers use to determine how healthy food options are, and if consumers misunderstand what labels

172. *See id.*

173. *See* 7 U.S.C.A. §§ 1639b(b)(2)(D), (e) (West 2016).

174. *Id.* § 1639b(c)(1).

175. *See* H.R. REP. NO. 114-208, at 11.

176. *Id.*

177. *See id.*

mean it can affect what they buy.¹⁷⁸ When consumers make judgements about what is healthier and safer, factors such as the production technology used can play a role.¹⁷⁹ Generally, self-imposed risk, such as cooking the food, is “more acceptable to consumers than technology-based risk,”¹⁸⁰ such as those associated with genetic engineering. Familiar risks are seen as less severe than unfamiliar ones.¹⁸¹ This means that when a new technology such as genetic engineering is used to make food, and the customer is aware of that, people are inclined to perceive a higher health risk with those foods.¹⁸² Each of the above consumer risks can change consumer choices if people do not understand how GMOs are made or whether they are safe.

2. *Examples of How Consumer Assumptions Can Affect Product Availability*

There are several examples of consumer perceived risks affecting food labeling and availability, including European Union (E.U.) labeling of GMO foods and milk labeling in the United States.¹⁸³ In 1997, amidst a growing opposition to foods containing GMOs, the E.U. required GMO foods to be labeled.¹⁸⁴ European opposition to GMO foods grew such that by 2010, close to 95 percent of Europeans thought GMO foods were potentially unsafe and lacking benefits.¹⁸⁵ In the 1990s, over 80 percent of people in Germany had a negative opinion of GMOs.¹⁸⁶ In the years following the E.U. GMO labeling requirement, European retailers removed GMOs from foods to avoid driving customers away,¹⁸⁷ despite a lack of evidence that there were any legitimate safety issues associated with GMO

178. Clare Hall & Felipe Osses, *A Review to Inform Understanding of the Use of Food Safety Messages on Food Labels*, 37 INT’L J. OF CONSUMER STUD. 422, 423 (2013).

179. Klaus G. Grunert, *Food Quality and Safety: Consumer Perception and Demand*, 32 EUROPEAN REV. AGRIC. ECON. 369, 381 (2005).

180. *Id.* at 382.

181. *Id.*

182. *Id.*

183. *See* The Editors, *supra* note 36.

184. *Id.*

185. *Europeans Wary of GMO Foods*, INDEP. (Nov. 17, 2010), <http://www.independent.co.uk/life-style/health-and-families/europeans-wary-of-gmo-foods-2137817.html> [<https://perma.cc/8BMS-LV25>].

186. Diahanna Lynch & David Vogel, *The Regulation of GMOs in Europe and the United States: A Case-Study of Contemporary European Regulatory Politics*, COUNCIL ON FOREIGN REL. (Apr. 5, 2001), <http://www.cfr.org/agricultural-policy/regulation-gmos-europe-united-states-case-study-contemporary-european-regulatory-politics/p8688> [<https://perma.cc/RZ7W-C5AG>].

187. *See*, The Editors, *supra* note 36.

products. As a result, it is nearly impossible to find GMO foods in European supermarkets as of 2013.¹⁸⁸

Another labeling controversy that affected consumer assumptions about food was labeling for how milk is produced.¹⁸⁹ Cows can produce more milk if they are injected with a genetically engineered growth hormone called rbST (or the similar rBGH genetically engineered growth hormone).¹⁹⁰ The FDA created a labeling guideline for rbST milk in 1994 that stated that “rbST free” labels could imply that milk created using rbST is less safe than other milk.¹⁹¹ At the time of the statement, the FDA asserted that implying rbST milk was less safe would be false and misleading.¹⁹² If companies wanted to use a “rbST free” label, they could do so with an accompanying statement: “No significant difference has been shown between milk derived from rbST-treated and non-rbST-treated cows.”¹⁹³ The FDA explained that the additional statement would put the claim into context and no longer be misleading.¹⁹⁴ Even with the FDA’s guidance, consumer pressure resulted in roughly 60 percent of milk being produced rbST free as of 2010.¹⁹⁵ Many states allowed the label of “rbST free” milk leading up to 2010, and as of 2010 all states permit “rbST free” labeling,¹⁹⁶ despite the lack of evidence that rbST milk has any significant difference from non-rbST milk. These examples demonstrate how consumer pressure can influence labeling, and how consumers can be affected by such labels.

188 *See id.*

189. Terence J. Center and Kyle W. Lathrop, *Labeling rbST-Derived Milk Products: State Responses to Federal Law*, 45 U. KAN. L. REV. 511, 515–16 (1997); Tom Laskawy, *Court Rules rBGH-free Milk *is* Better Than the Kind Produced with Artificial Hormones. Now what?*, GRIST (Oct. 7, 2010), <http://grist.org/article/food-2010-10-06-court-rules-on-rbgh-free-milk/> [<https://perma.cc/2HCC-P69P>] (detailing the labeling controversy for milk made from rBGH).

190. Laskawy, *supra* note 189.

191. *See* Center, *supra* note 189, at 515–16.

192. Interim Guidance on the Voluntary Labeling of Milk and Milk Products from Cows That Have Not Been Treated with Recombinant Bovine Somatotropin, 59 Fed. Reg. 6,279, 6,280 (Feb. 10, 1994).

193. *Id.*

194. *Id.*

195. Laskawy, *supra* note 189.

196. Libby Moulton, *Labeling Milk from Cows Not Treated with rbST: Legal in all 50 States as of September 29th, 2010*, COLUMBIA SCI. & TECH. L. REV. BLOG (Oct. 28, 2010), <http://stlr.org/2010/10/28/labeling-milk-from-cows-not-treated-with-rbst-legal-in-all-50-states-as-of-september-29th-2010/> [<https://perma.cc/9MJC-G722>].

3. *How Informational Cascades Can Lead People to Faulty Assumptions*

In addition to assumptions about what labels mean, consumers are often influenced by others when deciding what to buy. When people hear their friends state a belief, there are psychological pressures to agree and adopt the stated view.¹⁹⁷ Hearing many other people state a belief can create an information cascade making it more likely to conform to that belief.¹⁹⁸ This can lead to assumptions that the underlying belief is accurate, without basing any of this assumption on impartial evidence.¹⁹⁹ As a result, people can make inaccurate assumptions based on how others act.

The concept of informational cascades can be applied to the decision-making process based on food labels. Some people question the safety of GMOs in food, and demand to know whether GMOs are present in the food they consume.²⁰⁰ An information cascade could occur if that set of people decided to only buy food that did not contain GMOs. This would be an echo of the decrease in bioengineered foods used in Europe.²⁰¹ The theory would be that if an individual were close to a group who buy only non-GMO for safety concerns, she might adopt the belief that GMO foods are less safe than non-GMO foods.²⁰² As a result her purchase choices could also change.

4. *How Faulty Assumptions Can Develop from Required GMO Labeling*

A required label, as in Europe, could mislead consumers into thinking that GMO foods are inferior or even more dangerous than non-GMO counterparts.²⁰³ The FDA's position that "rbST-free" labeling can be misleading is different than an information cascade because it only requires the consumer to misunderstand the label itself instead of being influenced

197. DAVID EASLEY & JON KLEINBERG, NETWORKS, CROWDS, AND MARKETS: REASONING ABOUT A HIGHLY CONNECTED WORLD, 483–84 (2010). *See also* Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STAN. L. REV. 683, 720–23 (1999); *Availability Cascade, Information Cascade and Reputation Cascade: The Relevance of Cascades to Cotton*, COTTON ASS'N OF INDIA (Aug. 23, 2015), <http://cottonanalytics.com/wp-content/uploads/2015/08/13b.-Availability-Cascade.pdf> [<https://perma.cc/5YGH-6BPT>].

198. *See* COTTON ASS'N OF INDIA, *supra* note 197.

199. *See id.*

200. *E.g.*, JUST LABEL IT!, *supra* note 37.

201. *See* COTTON ASS'N OF INDIA, *supra* note 197.

202. *See id.* (affecting the information cascade and relying on faulty assumptions for social acceptance).

203. *See* INDEP., *supra* note 185.

by what others think.²⁰⁴ The same risk can occur when the product is labeled as “made from genetic engineering” without context. Even when there is defined labeling, the combined influence of the labeling with an information cascade can affect consumer choice by stigmatizing the GMO product. An example of this effect is demonstrated by the majority of manufacturers that switched to rbST free milk,²⁰⁵ despite the total lack of evidence that rbST milk was unsafe. As a result of uncontextualized labeling and information cascades, when the consumer shops she might avoid foods labeled as containing GMOs. Those assumptions for avoiding bioengineered food are problematic given that the FDA has determined that they are as safe as non-bioengineered options.²⁰⁶

If the label disclosure were electronic, a customer would not know whether food contained GMOs without additional research or scanning for more information.²⁰⁷ Therefore, if labels were required to be spelled out on the product there could be a decrease in GMO food purchases that otherwise would not exist. Europe’s required labeling that resulted in a lack of GMO foods is evidence that the same trend can happen in the United States if consumers’ beliefs shift as a result of information on labels.²⁰⁸

The easiest way to avoid misleading consumers is to prevent or reduce exposure to potentially misleading information. If GMO labeling were required directly on food labels, anyone who looked at the label closely would be able to tell that the food was made from GMOs. This would include consumers who mistakenly believe GMOs are unsafe based on faulty assumptions. They could assume that if foods containing GMOs were safe, there would be no need to label the product with such a warning.²⁰⁹

The electronic or digital disclosure can be understood as a method to prevent customers from making the faulty assumption that GMOs are dangerous, while allowing those with specific objections to GMOs (e.g.

204. See Interim Guidance on the Voluntary Labeling of Milk, *supra* note 192, at 6,280.

205. See Laskawy, *supra* note 189.

206. Statement of Policy: Foods Derived from New Plant Varieties, 57 Fed. Reg. at 22,991.

207. See 7 U.S.C.A. § 1639b(d)(1)(A) (West 2016). Consumer might eventually correlate a QR code with instructions to scan for more information as a proxy for food containing GMOs, but that relies on the correlation existing and people who are actively aware of it.

208. See INDEP., *supra* note 185.

209. Cass R. Sunstein, *Don’t Mandate Labeling of Gene-Altered Foods*, BLOOMBERG VIEW (May 12, 2013), <https://www.bloomberg.com/view/articles/2013-05-12/don-t-mandate-labeling-for-gene-altered-foods> [<https://perma.cc/SE54-NUP3>] (describing how labeling could mislead consumers to thinking that GMOs are unsafe or should be avoided as well as the economic need for GMOs).

based on religious beliefs) to obtain information about the bioengineering nature of the food product. Nobody who looks at a food product and sees a code to scan would initially know that the product is a result of bioengineering. They would have to go to the link to find out that information. People who do care whether they consume non-GMO products would still be able to go online and obtain that information. However, this does not mean that the people who scan a QR code would necessarily have a full, science-based understanding of what bioengineered means. Instead, it shows that they cared enough to scan the QR code before consuming or even purchasing the product.

D. S. 764 BALANCES INFORMED DECISION MAKING AND PROTECTING PEOPLE FROM MISLEADING INFORMATION

Labeling laws have an inherent tradeoff between access to information and avoiding the pitfalls of misleading consumers. When labeling is made explicit, it is also easier for consumers to misunderstand the included information, such as through the rbST-free milk example. However, providing clear labels enhances a consumer's autonomy by facilitating informed decision making. Generally, labels are an effective way for consumers to learn more about products.²¹⁰ However, when consumers might misinterpret what a label means, such as with bioengineered food, that misinformation would work against informed decision making. The indirect electronic labeling might be seen as a paternalistic way for the government to control people's decisions about GMOs, but any consumer who wants to avoid GMOs can still do so by purchasing organic or non-GMO products.

The electronic disclosure provision in the National Bioengineered Food Disclosure Law marks a halfway point between the two competing interests for bioengineered food. Consumers are less informed when they have to scan a code and view product information separately online, but they are also more insulated from making faulty assumptions. Another way to think of this tradeoff is in terms of who has the power to inform. For non-electronic labeling that power is with the government or food manufacturers who choose to disclose information by that method. The electronic disclosure method essentially shifts the power into the hands of the

210. See *National Organic Program*, U.S. DEP'T OF AGRIC., <https://www.ams.usda.gov/about-ams/programs-offices/national-organic-program> [<https://perma.cc/F3JG-WGPL>] (detailing requirements for organic labeling and USDA approval). Compared to the GMO labeling an organic label is much less likely to create misunderstanding, and instead helps customers learn more about the product itself that can be incorporated into decision making.

consumer. They have the ability to learn more about the products they want to buy and collect information themselves. The tradeoff established by electronic disclosure also explains why people on both sides of the fence, one arguing for the right to know and the other arguing the importance of GMO crops and the danger of misinformation, might take issue with S. 764.²¹¹ For the concern of the right to know the labeling is not clear enough to inform consumers. For the concern of misleading consumers there should not be any need to label GMOs in the first place. S. 764 took the middle ground so that it could pass and become law while still emphasizing the concern of not misleading consumers.

IV. CONCLUSION

Ultimately, the federal labeling requirement for food made using biotechnology manages to create a uniform law that strikes an optimal balance in both protecting and informing consumers. Federal preemption prevents increased costs to food producers from different state law requirements. The electronic disclosure prevents consumers from automatically jumping to incorrect conclusions about the safety of bioengineered food. S. 764 is an example of political compromise from two polarized groups that want the uniformity and clarity of a national law, and it effectively accomplishes that goal.

211. See Dan Charles, *Congress Just Passed a GMO Labeling Bill. Nobody's Super Happy About It*, NPR, THE SALT (July 14, 2016), <http://www.npr.org/sections/thesalt/2016/07/14/48606^%s0866/congress-just-passed-a-gmo-labeling-bill-nobodys-super-happy-about-it> [<https://perma.cc/ZAQ4-N353>] (explaining why multiple groups of people do not think that S. 764 accomplishes what it needs to).