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THE FUTURE OF GMO LABELING: HOW A NEW FEDERAL LABELING SCHEME WILL ALTER PUBLIC DISCLOSURE

INTRODUCTION

Genetic modification is a process used for a myriad of purposes, including the cultivation of plant species that ultimately find their way into countless food products across the world.¹ As the usage of genetically modified organisms (GMOs) has grown, so has the public debate surrounding their presence in food, and, more specifically, their *undisclosed* presence in food. Until recently, the United States maintained next to no regulation on the labeling of GMO products.² After many state legislatures began proposing and passing GMO-labeling laws, Congress passed one of its own.³ This Note will discuss the implications of the federal labeling scheme, and posits that although the scheme may disappoint grassroots anti-GMO interests, the scheme will ultimately have the effect of providing consumers with the “right to know” what is in their food, and will reduce the presence of genetically modified (GM) foods in the marketplace. Part I provides background on GMOs and explains the regulatory role of the FDA. Part II discusses GMO-labeling legislation passed by certain states, a law recently passed by Congress, and the legal challenges faced by lawmakers when passing this type of legislation. Part III argues that the federal regulatory scheme is not a death knell for consumer autonomy, and that it will do little to weaken the fight against GMOs.

I. BIRTH AND DEVELOPMENT OF GMO TECHNOLOGY

Today, the words “genetically modified” tend to evoke divisiveness. Yet, the phenomenon of genetic manipulation existed long before the birth of genetic bioengineering just a few decades ago. Most students learn about Gregor Mendel in high school biology, the Augustinian monk who, in the mid-nineteenth century, conducted experiments by crossbreeding pea plants.⁴ Mendel’s studies were a systematic imitation of what farmers had done for centuries: combining the genes of different species of plants and animals to cultivate desirable traits.⁵ This type of genetic modification can

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1. See discussion *infra* Part I.
 2. See discussion *infra* Part II.
 3. See discussion *infra* Part II.C.
 4. *Gregor Mendel: The Father of Modern Genetics*, OFF. NIH HIST., <https://perma.cc/Q9T2-LY5H>.
 5. *Id.*

occur naturally or through human intervention and is now unremarkable.⁶ Many of the plants and animals bred today are the products of such passive or active manipulation.⁷

Centuries after Mendel pondered pea plant variations in his monastery garden, two American biochemists introduced recombinant-DNA (rDNA) technology, through which they isolated fragments of a gene from one bacterium and inserted it into another.⁸ The foreign DNA then replicated naturally, creating an entirely new type of bacterium.⁹ This discovery came at a pivotal time for a notable player in the genetic engineering game—Monsanto. The company, which at the time was solely in the chemical manufacturing business, was feeling the effects of rising oil prices and public backlash against pesticides.¹⁰ During the seventies, Monsanto stepped tentatively into the field, allocating a small amount of resources to genetic engineering research.¹¹

But a momentous event changed the company's dallying approach. In 1980, the Supreme Court held that man-made microorganisms are patentable subject matter.¹² The decision helped to catalyze a biotechnology boom. Money surged into the industry, even funding companies who had yet to develop patentable organisms.¹³ Spurred by this breakneck growth, Monsanto devoted more resources to genetic engineering and the development of its own microorganisms.¹⁴ By 1990, Monsanto had invested over \$800 million in biotech and had developed a number of products using genetic engineering.¹⁵ The attitude of industry insiders during this period was one of rapturous optimism and their testimonies conjured utopian prospects: bountiful crop yields untouched by chemicals and grown from

6. Michaeleen Doucleff, *Natural GMO? Sweet Potato Genetically Modified 8,000 Years Ago*, NPR (May 5, 2015), <http://www.npr.org/sections/goatsandsoda/2015/05/05/404198552/natural-gmo-sweet-potato-genetically-modified-8-000-years-ago>.

7. *Id.*

8. Herbert W. Boyer & Stanley N. Cohen, CHEMICAL HERITAGE FOUND. (Aug. 11, 2015), <https://perma.cc/5A87-JSMF>.

9. Keith Schneider, *Betting the Farm on Biotech*, N.Y. TIMES MAG. (Aug. 10, 1990), <http://www.nytimes.com/1990/06/10/magazine/betting-the-farm-on-biotech.html?pagewanted=all>.

10. *Id.*

11. DANIEL CHARLES, LORDS OF THE HARVEST: BIOTECH, BIG MONEY, AND THE FUTURE OF FOOD 10 (2001).

12. *Diamond v. Chakrabarty*, 447 U.S. 303 (1980). The appellee, a microbiologist working for General Electric, sought a patent for a bacterium he had created through genetic manipulation. *Id.* at 306. The newly-minted bacterium had the capability to break down crude oil, and suggested great potential as a mechanism for cleaning up oil spills. Charles, *supra* note 11, at 10–11. Chakrabarty created the bacterium in 1972 using methods which were long obsolete by the time his case was heard by the Supreme Court, but the holding applied broadly to human-made microorganisms and served as a boon to the field of genetic engineering and the companies invested in it. *Id.*

13. Charles, *supra* note 11, at 11.

14. *Id.*

15. Schneider, *supra* note 9.

soil devoid of fertilizers, which could grow as rapidly as the fabled beanstalk into a pristine atmosphere unmarred by pollution caused by the farm industry.¹⁶ All things seemed possible, a canonical idealism perhaps best epitomized by a remark made by the president of the International Plant Research Institute in 1981: “We are going to make pork chops grow on trees.”¹⁷

Decades later, these lofty aspirations have yet to come to fruition. The facts and figures representing the relationship between GMOs and farm chemical use are disappointingly murky,¹⁸ but it is certainly safe to say that pesticides and herbicides are still widely used.¹⁹ Additionally, the agri-business conglomerate is now faced with rancorous opposition from anti-GMO activists, an effect probably not envisioned by those at the forefront of genetic engineering. A recent, extensive study corroborated the results of numerous others—all purport to find no health risks associated with GMOs.²⁰ This evidence has not deterred anti-GMO groups. Some of their fervent propaganda—debunked falsehoods oozing paranoia—is easy to dismiss as pure conspiracy theory,²¹ while other arguments for labeling GM food come from less dubious sources.²² Regardless of the origin of anti-GMO rhetoric, it often identifies Monsanto and other companies in its industry such as Bayer and DuPont as the root of GMO evil. To fight against big agri-business, anti-GMO groups push for legislation that would impose mandatory labeling requirements on companies.

II. THE ROLE OF THE FDA, STATE AND FEDERAL LABELING LAWS, AND LEGAL HURDLES

16. See *id.*; Ann Crittenden, *The Gene Machine Hits the Farm of Their New Usage*, N.Y. TIMES MAG. (June 28, 1981), <http://www.nytimes.com/1981/06/28/business/the-gene-machine-hits-the-farm-of-their-new-usage.html?pagewanted=all>.

17. *Id.*

18. Dan Charles, *How GMOs Cut the Use of Pesticides—And Perhaps Boosted It Again*, NPR (Sept. 1, 2016), <https://perma.cc/X46Z-GNFS>.

19. See Douglas Main, *Glyphosate Now the Most-Used Agricultural Chemical Ever*, NEWSWEEK (Feb. 2, 2016), <https://perma.cc/9E4T-MHM4>.

20. Elizabeth Weise, *Academies of Science Finds GMOs Not Harmful to Human Health*, USA TODAY (May 17, 2016), <https://perma.cc/34ZS-NJPD>; see also THE NAT'L ACADS. OF SCI., ENG'G & MED.: COMM. ON GENETICALLY ENGINEERED CROPS ET. AL., GENETICALLY ENGINEERED CROPS: EXPERIENCES AND PROSPECTS (2016).

21. See generally Stefaan Blanck, *Why People Oppose GMOs Even Though Science Says They Are Safe*, SCI. AM. (Aug. 18, 2015), <https://perma.cc/UN6H-8P2U>.

22. See, e.g., Jason Kelly, *Opinion, I Run a G.M.O. Company—and I Support G.M.O. Labeling*, N.Y. TIMES (May 16, 2016), https://www.nytimes.com/2016/05/16/opinion/i-run-a-gmo-company-and-i-support-gmo-labeling.html?_r=0.

A. *The FDA's Role in GMO Labeling*

The Food and Drug Administration (FDA) is the most obvious entity to assume responsibility for promulgating GMO-food labeling requirements. However, despite encouragement to do so, it has never issued anything more than nonbinding recommendations regarding the labeling of products containing GMOs.²³ The agency's authority stems primarily from the Federal Food, Drug, and Cosmetic Act of 1938 (FDCA),²⁴ which has been amended to augment the FDA's ability to regulate what food producers may put in their products and how they must label them.²⁵ Under the Food Additives Amendment of 1958, the FDA requires pre-approval before certain additives are included in food products.²⁶ Additives exempt from the pre-approval requirement are those "generally recognized as safe" (GRAS).²⁷ In 1990, Congress passed the National Labeling and Education Act (NLEA), which imposed mandatory, complete nutritional labeling, with the intent of allowing consumers to make better-educated decisions about the food they purchase.²⁸ Shortly after the enactment of the NLEA, the FDA

23. Morgan Anderson Helme, Note, *Genetically Modified Food Fight: The FDA Should Step Up to the Regulatory Plate So States Do Not Cross the Constitutional Line*, 98 MINN. L. REV. 356, 363 (2013).

24. Federal Food, Drug, and Cosmetic Act, Pub. L. No. 75-717, 52 Stat. 1040 (1938).

25. See Helme, *supra* note 23, at 360 (providing an overview of the evolution of the FDA from its enactment up to the present day). The Pure Food and Drug Act, enacted in 1906, was the first consumer protection law to give enforcement authority to the FDA, and was written with the goal of protecting consumers from "false and misleading" information. Pure Food and Drug Act, Pub. L. No. 59-384, 34 Stat. 768 (1906); see also Fred H. Degnan, *Biotechnology and the Food Label*, in LABELING GENETICALLY MODIFIED FOOD: THE PHILOSOPHICAL AND LEGAL DEBATE 20 (Paul Weirich ed., 2007) [hereinafter LABELING GENETICALLY MODIFIED FOOD].

26. Federal Food, Drug, and Cosmetics Act, 21 U.S.C. § 321 (2012). The FDCA defines a "food additive" as:

any substance the intended use of which results or may reasonably be expected to result, directly or indirectly, in its becoming a component or otherwise affecting the characteristics of any food . . . if such substance is not generally recognized, among experts qualified by scientific training and experience to evaluate its safety, as having been adequately shown through scientific procedures . . . to be safe under the conditions of its intended use.

Id.

27. Currently, the GRAS distinction applies to 378 food additives, ranging from the familiar (beeswax, cornstarch, peanut oil, garlic), to the foreign (ferric pyrophosphate), to the sometimes alarming (ox bile extract, hydrochloric acid). See *SCOGS (Select Committee on GRAS Substances)*, FDA, <https://perma.cc/QWR8-CZPX>.

28. See LABELING GENETICALLY MODIFIED FOOD, *supra* note 25, at 19.

"[T]he mandatory nutrition labeling requirement of the NLEA was not designed to compel the disclosure of just routine information on food labels. Rather, the requirement was designed to require the disclosure of essential information that consumers need to choose foods wisely. To this end, consider that while NLEA specifies the nutrients for which information must be provided in nutrition labeling, the Act gives the FDA the authority to exclude any nutrient, regardless of its presumptive public health significance, from the declaration requirement when the agency finds that the information 'is not *necessary* to assist consumers in maintaining healthy dietary practices.'

Id.

indicated that foods containing bioengineered ingredients would not be subject to the labeling requirements of the NLEA nor would GM ingredients be considered food additives so as to require pre-approval. This decision gave GM foods a “presumed GRAS status.”²⁹ Even in the present age of GMO controversy, the FDA has not significantly shifted its views regarding disclosure of bioengineered ingredients. As long as the label is not misbranded by being false or misleading, it is acceptable to the FDA.³⁰ This foundational principle—that product branding must be accurate and true—extends to the labeling of GMOs.³¹ For instance, the FDA considers a label false and misleading if it purports that it is completely free of GMOs when it contains GM corn.³² The FDA provides guidance for producers who wish to voluntarily label their products as containing, or not containing, bioengineered ingredients.³³ To ensure that a product is not misleading, the FDA gives numerous examples of wording that may be printed on food labels to express that the product was produced either with or without GM ingredients.³⁴ Some of these recommendations serve as clear pronouncements, while others are more convoluted.³⁵ For example, a cereal company may label a product that contains no GM ingredients (Cereal A)

29. See Helme, *supra* note 23, at 362; see also Statement of Policy: Foods Derived from New Plant Varieties, FDA, 57 Fed. Reg. 22,984, 22,991 (May 29, 1992). The FDA presumed naturally occurring substances to be GRAS, as long as “the substance present in the food is one that is already present at generally comparable or greater levels in currently consumed foods.” *Id.* It equates this position to its rationale toward bioengineered ingredients—that they are different from their naturally occurring counterparts only through small variations in molecular structure, and therefore have GRAS status until there is evidence they are unsafe. *Id.*

30. See Jennifer L. Pomeranz, *A Comprehensive Strategy to Overhaul FDA Authority for Misleading Food Labels*, 39 AM. J. L. & MED. 617 (2013) for a comprehensive explanation of the prohibition on misbranding. The FDA considers a product to be misbranded if it has a false or misleading label, lacks proper identification, fails to disclose required information, or does not comply with requirements specified by the FDA. *Id.* at 620. Pomeranz asserts that the FDA approaches cases of alleged misbranding inconsistently and ineffectively, leading to confusion as to the permissibility of certain claims advertised by producers. *Id.* at 630.

31. Helme, *supra* note 23 at 362. “It is within this regulatory framework that the FDA considers the use in food of new plant varieties developed through genetic modification.” *Id.*

32. *Guidance for Industry: Voluntary Labeling Indicating Whether Foods Have or Have Not Been Derived from Genetically Engineered Plants*, FDA, <https://perma.cc/P2DH-DPBJ> [hereinafter FDA Guidance].

33. *Id.* Although variations of the terms “genetically modified” and “bioengineered” are often used interchangeably, even on food labels, the FDA chooses to identify what are colloquially referred to as GMOs as “bioengineered” ingredients. *Id.* The rationale behind this choice is that “the term ‘genetically modified’ can encompass any alteration to the genetic composition of a plant, including alterations achieved through traditional hybridization or breeding techniques,” therefore the term “genetically modified” “could apply to most cultivated food crops since most food crops are the product of selective breeding.” *Id.* Another reason for this preference is that the word “organism,” is represented by the letter O in “GMO.” *Id.* According to the FDA, “[m]ost foods do not *contain* entire organisms,” but are instead *derived* from genetically engineered organisms, which could potentially lead to confusion. *Id.*

34. *Id.*

35. See FDA Guidance, *supra* note 32 for a comprehensive list of labeling recommendations.

as “not genetically engineered,” and a product that contains GM soybeans, for instance, as “genetically engineered” (Cereal B).³⁶ However, the FDA guidance also submits that Cereal A may be labeled with the words “[o]ur corn growers do not plant bioengineered seeds” and a statement on Cereal B may say “[s]ome of our growers plant soybean seeds that were developed through modern biotechnology to be drought tolerant.”³⁷ In the case of Cereal A, does the label mean that although the corn is not genetically engineered, other ingredients are? The answer is unclear. The label on Cereal B uses the word “biotechnology,” but does not refer to genetic modification or bioengineering. The meaning of such a statement may puzzle to even the most discerning consumers. This issue is addressed by the FDA, which warns that even a truthful statement may be misleading.³⁸ For example, the guidance states—

[O]n a product made largely of flour derived from genetically engineered corn and a small amount of non-genetically engineered soybean oil, a claim that the product ‘does not contain bioengineered soybean oil’ could be misleading if consumers believe that the entire product, or a larger portion of it than is actually the case, is free of bioengineered material. It may be necessary to carefully qualify the statement in order to ensure that consumers understand its significance.³⁹

This instruction still fails to address the potential circumstance in which a product’s *primary* ingredient is not bioengineered. If the hypothetical product in the FDA’s example was composed of mostly of non-genetically engineered soybean oil and only in small part of flour derived from genetically engineered corn, would it be misleading for the producer to label the product as not containing bioengineered soybean oil? The failure of the guidance to address such a situation implies that it would be acceptable and not considered misleading to consumers. However, it seems probable that a consumer who sees such a statement would assume it means that the product contains no GM ingredients.

The FDCA does not provide a private right of action, and the FDA cannot impose monetary penalties for misleading food labels.⁴⁰ Typically, the only consequence facing the companies responsible for misbranded products is receiving a Warning Letter from the FDA.⁴¹ Rarely do companies suffer

36. *Id.*

37. *Id.*

38. *Id.*

39. *Id.*

40. *See* Pomeranz, *supra* note 30, at 635.

41. *Id.* at 632. A Warning Letter requires the recipient to correct the misleading information on its labels. The currently misbranded product will not be taken off shelves, however, unless it is hazardous

sanctions for misleading label violations.⁴² The lack of binding regulation under the FDCA allowed for the passage of a federal GMO-labeling law. Although the federal law applies to any food subject to the labeling requirements of the FDCA, it amended the Agricultural Marketing Act, and mandates the eventual creation of a labeling scheme that, once finalized, will be promulgated by the US Department of Agriculture rather than the FDA.⁴³ The law therefore moves past the FDA's nonbinding recommendations for GMO-labeling and imposes what appear to be mandatory disclosure requirements.⁴⁴

B. State Efforts to Enact GMO Labeling Laws

In 2014, no federal laws regulated the labeling of GMOs.⁴⁵ In response to growing concerns over the widespread use of GM ingredients and the challenges faced by consumers who wished to avoid it, Vermont put forth an act relating to the “labeling of food produced with genetic engineering.”⁴⁶ The Act, Act 120, which went into effect on July 1, 2016, was designed to “[r]educ[e] and prevent consumer confusion and deception,” thereby allowing people to make “informed” decisions when purchasing food.⁴⁷ It required that all food produced wholly or in part with GM ingredients be “clear[ly] and conspicuous[ly]” labeled.⁴⁸ Furthermore, it prohibited those products from being touted as “natural.”⁴⁹

Vermont was not the first state to pass a law requiring the labeling of GM products. The Maine and Connecticut legislatures both succeeded in

to health or would lead to injury due to its misleading label. The FDA may also obtain an injunction from the Department of Justice or file criminal charges against the company in question, but only in the most extreme cases. *Id.*

42. *Id.* at 633.

The FDA has said that Warning Letters should be issued for violations ‘that may actually lead to an enforcement action’ if not corrected; however, this is not an accurate account of its enforcement activity. Rather, the Warning Letter represents *the* enforcement action for cases of mislabeled food products. There is no other viable enforcement action when a violation occurs and worse, not all violations actually garner a letter.

Id. (citations omitted).

43. Act of July 29, 2016, Pub. L. No. 114-216, 130 Stat. 834, 834–39 (2016).

44. *But see* Stephanie Strom, *G.M.O. Labeling Bill Clears First Hurdle in the Senate*, N.Y. TIMES (July 6, 2016), <https://www.nytimes.com/2016/07/07/business/gmo-labeling-bill-passes-first-hurdle-in-senate.html>. Wenonah Hauter, executive director of a prominent environmental advocacy group, claimed that “the industry wins what are essentially voluntary requirements under this G.M.O. labeling ‘compromise.’” *Id.*

45. Bonnie Smith & Laura Murphy, *Vermont Act 120: A Light in the DARK for GMO Food Labeling*, VT. J. ENVTL. L., <https://perma.cc/8C25-UV4Y>.

46. VT. STAT. ANN. tit. 9, § 3043 (2015).

47. VT. STAT. ANN. tit. 9, § 3041 (2015).

48. VT. STAT. ANN. tit. 9, § 3043 (2015).

49. *Id.*

passing mandatory labeling laws, subject to certain conditions.⁵⁰ GMO-labeling initiatives have been proposed in most states, but the overwhelming majority of them never became law.⁵¹ At first this phenomenon appears paradoxical. If most Americans are in favor of mandatory GMO disclosure, then labeling bills should face minimal challenges in state legislatures or on ballot initiatives. Yet, the food industry fought hard against labeling legislation; companies and trade associations which stood to lose business and/or experience higher costs due to GMO labeling laws combatted labeling bills' passage financially—spending millions of dollars in states that proposed any such legislation.⁵²

C. Recent Federal Legislation

After the passage of Act 120, the Grocery Manufacturers' Association, along with other food industry trade groups, challenged the law's disclosure requirement on constitutional grounds in federal district court.⁵³ The complaint was dismissed in April 2015,⁵⁴ but the food industry was galvanized by the possibility of restrictive state labeling laws going into effect. In March of 2015, the Safe and Accurate Food Labeling Act was introduced in the Federal House of Representatives.⁵⁵ Branded the "Deny Americans the Right to Know" or "DARK" Act by pro-labeling advocates, the bill was designed to impose only the most minimal requirements upon

50. See Julie M. Muller, *Naturally Misleading: FDA's Unwillingness to Define "Natural" and the Quest for GMO Transparency Through State Labeling Initiatives*, 48 SUFFOLK U. L. REV. 511, 512 (2015); Act of June 25, 2013, Pub. Act 13-183 (Conn. 2013) (Reg. Sess.) (codified at scattered sections of Conn. Gen. Stat. Ann. § 21a). Whether the Connecticut law would go into effect was conditioned on the passage of similar laws in at least four other states, including at least one that bordered Connecticut. *Id.* at § 3; Me. Rev. Stat. Ann. tit. 22, §§ 2591–2596 (titled the Act to Protect Maine Food Consumers' Right to Know about Genetically Engineered Food). The Maine law would not go into effect unless at least five other states or states with a combined population of 20 million people enacted similar laws. *Id.* at § 2.

51. Muller, *supra* note 50, at 512; see also Ross H. Pifer, *Mandatory Labeling Laws: What Do Recent State Enactments Portend for the Future of GMOs?* 118 PENN ST. L. REV. 789, 799–803. Proposition 37, a 2012 California referendum initiative which would have instated a mandatory GMO labeling standard in the state, was defeated by a "no" vote of 51.41%. *Id.* at 801.

52. Pifer, *supra* note 51, at 801.

53. *Grocery Mfrs. Ass'n v. Sorrell*, 102 F. Supp. 3d 583 (D. Vt. 2015).

54. Plaintiffs alleged that Act 120 should be invalidated because it violated the dormant Commerce Clause through the discriminatory effects it would have on interstate commerce. *Id.* at 605–06. They argued that the burdens imposed by the Act would fall disproportionately on out-of-state food manufacturers, who would be forced to change their entire labeling scheme to comply with the law, potentially leading to conflicts with other states' labeling laws. *Id.* at 608. The court was not swayed by this argument, explaining that the burden placed on out-of-state manufacturers was no greater than the burden on in-state manufacturers. Additionally, out-of-state manufacturers were free to charge higher prices on their products in Vermont to offset the costs of compliance. *Id.* The plaintiffs also challenged the law on preemption grounds, which the court likewise dismissed. *Id.*

55. Safe and Accurate Food Labeling Act of 2015, H.R. 1599, 114th Cong. (1st Sess. 2015). Republican representative Mike Pompeo of Kansas sponsored the bill. *Id.*

food companies and thwart states' attempts to pass their own labeling laws.⁵⁶ The bill passed the House, but died in the Senate.⁵⁷ Initially, the bill's failure appeared to be a triumph for pro-labeling advocates and states like Vermont that wished to pass mandatory labeling legislation.⁵⁸ However, driven by the looming effective date of Vermont Act 120, senators reached a bipartisan compromise on GMO labeling legislation.⁵⁹ The deal passed the Senate as a rider on another Senate bill and was approved by the House and signed into law less than a month after the Vermont law's effective date, pre-empting it and all other state GMO-labeling legislation.⁶⁰ The compromise received support from food trade associations.⁶¹ However, although it was touted as an adequate compromise for both sides of the aisle, most Democratic senators voted against it.⁶² Opponents viewed the compromise bill as effectively the same as the original, but packaged differently.⁶³

On the surface, the most conspicuous difference between the original House bill and the compromise signed into law (hereinafter referred to as the Safe Act) is that the former allowed a voluntary labeling scheme, while the latter imposes mandatory labeling requirements on food producers.⁶⁴ Functionally, this distinction may not be important. The original House bill contained specifications for a GM food certification program.⁶⁵ Companies would be free to choose whether to label their food as containing or not containing GM ingredients, and their products would have to meet a number of criteria in order to bear the label "GMO-free."⁶⁶ The bill specifically deferred to the FDA regarding the term "natural," suggesting that foods containing GMOs could still bear the "natural" label.⁶⁷ According to

56. *Id.*; Michal Addady, *President Obama Signed This GMO Labeling Bill*, FORTUNE (July 31, 2016), <https://perma.cc/3YMV-2BPS>.

57. Stephanie Strom, *Bill to Stop States Requiring Labeling of GMO Foods Fails*, N.Y. TIMES (Mar. 16, 2016), https://www.nytimes.com/2016/03/17/business/bill-to-stop-states-requiring-labeling-of-gmo-foods-fails.html?_r=0.

58. *Id.* Senator Bernie Sanders described the vote as a "victory for the American people over corporate interests." *Id.*

59. Helena Bottemiller Evich, *GMO Labeling Deal 'Close'*, POLITICO (June 21, 2016, 10:00 AM), <https://perma.cc/4KNC-XMWC>. Democratic Senator Debbie Stabenow and Republican Pat Roberts drafted the GMO compromise. *Id.*

60. Act of July 29, 2016, Pub. L. No. 114-216, 130 Stat. 834, 834-39 (2016).

61. Erik Wasson, *Senate GMO Labeling Deal Would Ban State Requirements*, BOSTON GLOBE (June 25, 2016), <https://www.bostonglobe.com/business/2016/06/24/senate-gmo-labeling-deal-would-ban-state-requirements/4XwcVSUMK8uMK98oQENGXI/story.html>.

62. *U.S. Senate Roll Call Votes—Vote 123 on the Motion to Concur in the House Amendment to S.764 with Further Amendment*, 114th Cong. (2nd Sess. 2016), <https://perma.cc/SPW4-L2DK>.

63. See *supra* note 44 and accompanying text.

64. Safe and Accurate Food Labeling Act of 2015, H.R. 1599, 114th Cong. (1st Sess. 2015); 130 Stat. at 834-39.

65. *Id.*

66. *Id.*

67. *Id.*

lawmakers in support of the bill, this federal scheme was passed in an effort to prevent states from enacting their own laws, which would make it challenging and expensive for food companies to satisfy the requirements of a “patchwork” of varying state laws.⁶⁸ Yet an examination of the conditions precedent for effectuation in state GMO labeling laws indicate that complying with a differentiated variety of state laws would probably not emerge as an issue, contrary to the outcry from big-food interests.⁶⁹ Essentially, the House bill was designed to barely change the status quo, serving only as a mechanism to preempt the state labeling laws that did exist.⁷⁰

Conversely, the Safe Act requires the establishment of “a national mandatory bioengineered food disclosure standard.”⁷¹ The law tasks the Secretary of Agriculture with formulating and instituting the standard within two years, subject to certain specifications.⁷² Although requirements are markedly less lenient on food companies than in the original bill, it is evident why food companies and trade associations are satisfied with the law, while pro-labeling advocates are staunchly against it.⁷³ It ostensibly creates a mandatory labeling requirement, yet is subject to many significant exceptions that will allow companies to avoid labeling food containing GM ingredients.⁷⁴ For example, foods that are derived from animals cannot be considered bioengineered “solely because the animal consumed feed produced from, containing, or consisting of a bioengineered substance.”⁷⁵ The USDA will determine the threshold amount of GM ingredients necessary in order to require that the food be labeled as genetically engineered and establish the request process by which the agency will determine whether a food must be labeled.⁷⁶ These provisions spark concern that the USDA will be too lenient in deciding on allowable thresholds and other necessary requirements that companies must meet to avoid a GMO label.⁷⁷

One of the most decried provisions of the law states that a label’s disclosure statement may be in the form of “text, symbol, or electronic or

68. Puneet Kollipara, *Opposition Stalls U.S. Senate Bill Aimed at Blocking GMO Food Labels*, SCI. MAG. (Mar. 17, 2016, 11:45 AM), <https://perma.cc/7R96-HJNP>.

69. See *supra* note 50 and accompanying text.

70. Kollipara, *supra* note 68.

71. Act of July 29, 2016, Pub. L. No. 114-216, 130 Stat. 834, 834–39 (2016) [hereinafter the Safe Act].

72. *Id.*

73. Jean Halloran, *Consumers Union Letter to US Senate in Opposition of S.764 to Preempt State GMO Labeling Laws*, CONSUMERS UNION (July 1, 2016), <https://perma.cc/9XK6-GB6V>.

74. *Id.*

75. Safe Act, *supra* note 71.

76. *Id.*

77. Halloran, *supra* note 73.

digital link . . . with the disclosure option to be selected by the food manufacturer.”⁷⁸ This proves worrisome to disclosure supporters, who see the digital link option (also known as a quick-response, or QR, code) to be exclusionary; consumers without smartphones will be unable to scan the codes at all, and most smartphone owners will not take the time to scan every item they put in their carts.⁷⁹ Furthermore, since QR codes are already in use and appear on many food labels, the mere presence of a QR code is not a “de facto indication that a product contains GMOs.”⁸⁰ Allowing disclosures through QR code thereby does not permit the consumer to determine whether a product does or does not contain GMOs through a brief inspection of its label.⁸¹

Lawmakers typically rely on one of two justifications when they require mandatory labeling on any product, food or otherwise. First, there is a risk when consuming or using a product that may lead to harm.⁸² If a product is associated with proven harms, risk-based thinking can form the basis for mandatory labeling even when a risk has not yet been established, but may be proven in the future.⁸³ This so-called “precautionary principle” is the rationale of many pro-labeling advocates, who believe that although there are no known risks associated with consumption of GM foods, they have not been widely consumed for a long enough period of time to properly and accurately determine the effect they may have on humans.⁸⁴ The precautionary attitude prevails in many legislative systems, which is why other countries have succeeded in enacting relatively restrictive labeling schemes or imposing outright bans on GM products.⁸⁵

Second, if the people want it, they should be able to have it.⁸⁶ This autonomy-based justification gives no regard to the rationale behind the majority’s demand for a federal GMO labeling scheme, therefore rendering the grounds for an autonomy-based justification “boundaryless.”⁸⁷ Elemental to the consumer autonomy principle is the notion of the consumers’ “right to know.”⁸⁸ The right to know is an accepted pretext for the passage of labeling requirements in other countries, but such

78. Safe Act, *supra* note 71.

79. Halloran, *supra* note 73; Greg Trotter, *Will Food Shoppers Really Seek Out GMO Information Using QR Codes?*, CHI. TRIB. (July 12, 2016, 1:44 PM), <http://www.chicagotribune.com/business/ct-gmo-labeling-qr-codes-0713-biz-20160712-story.html>.

80. Halloran, *supra* note 73.

81. Trotter, *supra* note 79.

82. Philip G. Peters & Thomas A. Lambert, *Regulatory Barriers to Consumer Information About Genetically Modified Foods*, in LABELING GENETICALLY MODIFIED FOOD 153, *supra* note 25.

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.* at 155.

87. *Id.* at 154.

88. *Id.*

requirements in the United States can seemingly only be established with the backing of established health and safety concerns.⁸⁹

Proposed GMO labeling laws have not consistently represented either a risk-based or autonomy-based justification, but have borrowed pieces from each philosophy. The original act contemplated by Vermont, for example, explicated the need for legislation because “[g]enetically engineered foods potentially pose risks to health, safety, agriculture, and the environment,” and that “[f]or multiple health, personal, religious, and environmental reasons . . . food produced from genetic engineering should be labeled as such.”⁹⁰ The authors of the original bill continued to justify its necessity by stating that “[p]ublic opinion polls . . . indicate that a large majority of Vermonters want foods produced with genetic engineering to be labeled as such.”⁹¹ Through this justification, the Vermont legislature evoked the precautionary principle as the driving force behind its citizens’ desire to know if products are produced with genetic engineering, therefore justifying the law by both the potential risk posed by GMOs and consumer autonomy principle.

The absence of evidence showing that GMOs are harmful is significant when faced with the question of government interest in passing labeling laws. Consumption has not been shown to have any detrimental impact on human health, and, so far, anti-GMO activists have not presented any compelling data showing the benefits of avoiding GMOs.⁹² As one columnist put it: “‘GMO-free’ does not mean fair trade, and it does not mean sustainable, and it does not mean monoculture-averting, and it does not mean rainforest-enabling, and it does not mean labor-friendly, and it does not mean healthy”⁹³

The Monsanto company is the preeminent evil for anti-GMO advocates. For certain consumer groups, it represents the nefarious machine of corporate control, infiltrating worldwide agriculture and contaminating the

89. Neil D. Hamilton, *Legal Issues Shaping Society’s Acceptance of Biotechnology and Genetically Modified Organisms*, 6 DRAKE J. AGRIC. L. 81, 96 (2001).

90. H.R. 112, 2014 Leg., 2013–2014 Sess. (Vt. 2014).

91. *Id.* at § 1(5)(A).

92. See, e.g., Niraj Chokshi, *Stop Bashing G.M.O. Foods, More Than 100 Nobel Laureates Say*, N.Y. TIMES (June 30, 2016), <https://www.nytimes.com/2016/07/01/us/stop-bashing-gmo-foods-more-than-100-nobel-laureates-say.html>. Dozens of physicists, chemists, and doctors of medicine contributed to a letter written to Greenpeace, stating that

[s]cientific and regulatory agencies around the world have repeatedly and consistently found crops and foods improved through biotechnology to be as safe as, if not safer than those derived from any other method of production . . . [t]here has never been a single confirmed case of a negative health outcome for humans or animals from their consumption.

Id.

93. James Hamblin, *No One is Denying A ‘Right to Know What’s in My Food,’* ATLANTIC (July 24, 2015), <https://perma.cc/NEB5-Y2VL>.

food supply.⁹⁴ However, most of these advocate groups focus singularly on the alleged health effects of GM ingredients, even though they have been proven unfounded many times over.⁹⁵ Consequently, the right to know based on the potential health effects caused by GMO consumption is the driving factor behind the demand for informative labeling laws.⁹⁶

There are, however, other legitimate reasons beyond alleged detrimental health effects that consumers can point to as justification for avoiding GMOs, especially if their opposition is primarily against corporate control of the American agricultural system. Most of the GM crops grown in the United States are designed to resist insects, and even more are engineered to withstand chemicals which kill weeds.⁹⁷ Not surprisingly, pesticide use has diminished since the advent of pest-resistant crops, but the use of herbicides has risen drastically.⁹⁸ Because their engineered crops will not be harmed by herbicide use, farmers liberally utilize the chemicals to kill off weeds.⁹⁹ This excessive application has caused many weeds to develop resistance to the chemicals, creating the demand for new formulations of herbicide and, of course, GM crops that can resist them.¹⁰⁰ Roundup is the most widely used herbicide, with about 1.4 billion pounds of it applied to crops worldwide each year.¹⁰¹ It is manufactured by Monsanto.¹⁰² The active ingredient in Roundup, glyphosate, has a “low toxicity for humans” according to the EPA,¹⁰³ but the International Agency for Research on Cancer (a subsection of the World Health Organization) has classified glyphosate as a substance that is “probably carcinogenic to humans.”¹⁰⁴

94. See *Millions Against Monsanto*, ORGANIC CONSUMERS ASS'N, <https://www.organicconsumers.org/campaigns/millions-against-monsanto> (last visited Aug. 23, 2017).

95. See William Saletan, *Unhealthy Fixation*, SLATE (July 15, 2015, 5:45 AM), <https://perma.cc/Z657-LB6M>.

96. See, e.g., *Why Label?*, JUSTLABELIT, <https://perma.cc/4RJL-WE6A> (last visited Aug. 28, 2017) (“While our reasons for wanting to know what’s in our food may vary, what unifies us is the belief that it’s our right.”).

97. Saletan, *supra* note 95. About three-quarters of corn and soybeans are genetically engineered to resist insects, and eighty to eighty-five percent of the same crops are engineered to resist herbicides. *Id.*

98. Danny Hakim, *Doubts About the Promised Bounty of Genetically Modified Crops*, N.Y. TIMES (Oct. 29, 2016), https://www.nytimes.com/2016/10/30/business/gmo-promise-falls-short.html?_r=0. France and Germany, which grow no GM crops, have increased their crop yields at the same rate as the United States over past decades. *Id.* Those countries, however, have far lower rates of both pesticide and herbicide use. *Id.*

99. Elizabeth Grossman, *What Do We Really Know About Roundup Weed Killer?*, NAT'L GEOGRAPHIC (Apr. 23, 2015), <https://perma.cc/6WRD-SN3H>.

100. *Id.*

101. *Id.*

102. *Id.*

103. *Glyphosate*, EPA, <https://perma.cc/8PC2-QXXP>.

104. WORLD HEALTH ORG.: INT'L AGENCY FOR RESEARCH ON CANCER, IARC MONOGRAPHS VOLUME 112: EVALUATION OF FIVE ORGANOPHOSPHATE INSECTICIDES AND HERBICIDES (Mar. 2015), <https://perma.cc/EWK9-6GLX>. In 1985, the EPA classified glyphosate as “possibly” carcinogenic, but in 1991 re-evaluated its study and changed the classification. *Id.* The International Agency for Research

Studies also indicate that the non-active ingredients in Roundup may be even more hazardous than glyphosate itself.¹⁰⁵ Nearly all of the corn and soybeans seeds sold by Monsanto are “Roundup Ready”—genetically engineered to withstand the herbicide while the weeds shrivel under its lethal spray.¹⁰⁶ GMO labeling laws would require the manufacturer of food products made with Roundup Ready corn and soybeans to disclose that the food contains GM ingredients, but not that the corn was doused in herbicide. Once rarely found in food, glyphosate residue is now present in Roundup Ready crops because of its heightened use.¹⁰⁷

Labeling requirements give consumers discretion in choosing whom they purchase their products from and allow them to make a statement with their purchases. Even if they don’t believe that GMOs are harmful, they may still not want to lend their support to companies like Monsanto for other, perhaps more justifiable reasons, like the proven dangers associated with pesticide usage.¹⁰⁸ It is easy to boycott a company by not buying their products, but much more challenging, even impossible, to avoid contributing to such a pervasive conglomerate.

Therefore, it is difficult to determine what type of labeling scheme would be satisfactory to the majority of Americans who believe that they have a right to know whether their food contains genetically engineered ingredients.¹⁰⁹ Staunch proponents of GMO labeling are disappointed with the passage of the federal law which they believe does not impose strict enough requirements on food manufacturers.¹¹⁰ However, in theory, voluntary requirements that go beyond the nonbinding guidance from the

on Cancer examined the results from the original EPA study in conjunction with more recent tests to determine that glyphosate should be correctly classified as a probably carcinogen. *Id.*

105. Crystal Gammon, *Weed-Whacking Herbicide Proves Deadly to Human Cells*, SCI. AM. (June 23, 2009), <https://perma.cc/57K8-X6V8>. “One specific inert ingredient, polyethoxylated tallowamine, or POEA, was more deadly to human embryonic, placental and umbilical cord cells than the herbicide itself – a finding the researchers call ‘astonishing.’” *Id.*

106. Saletan, *supra* note 95.

107. *Id.*

108. See e.g., Philip L. Weinstein, *Legal Implications of the Natural Migration of Patented Transgenic Plants*, 5 BIOTECHNOLOGY & PHARMACEUTICAL L. REV. 137 (2011–2012).

Monsanto protects its intellectual property rights in the transgenic plant seeds by using patent protection and contractual license agreements Monsanto also requires farmers to sign a licensing agreement, which among other restrictions, bars the farmer from replanting ‘saved seeds,’ seeds recovered from the previous year’s crop, from season to season.

Id. at 138. Seeds travel naturally, and GM seeds look no different than non-GMO seeds of the same plant variety, making it easy for farmers to inadvertently grow Monsanto-patented seeds and then face litigation. *Id.*; see also *Monsanto Guilty in ‘False Ad’ Row*, BBC NEWS (Oct. 15, 2009, 2:13 PM), <https://perma.cc/636J-XES4>.

109. Allison Kopicki, *Strong Support for Labeling Modified Foods*, N.Y. TIMES (July 27, 2013), <https://nyti.ms/177pk7l>. “93 percent of respondents [said] that foods containing such ingredients should be identified.” *Id.* However, only three-quarters of the respondents were actually concerned about the presence of GMOs in their food. *Id.*

110. Halloran, *supra* note 73.

FDA will lead to the result that labeling supporters desire.¹¹¹ Many activist groups adamantly oppose the presence of any GMOs, and seek an outright ban on their usage. Greenpeace, for example, declares that “GMOs should not be released into the environment since there is not an adequate scientific understanding of their impact on the environment and human health” and opposes “all patents on plants, animals and humans, as well as patents on their genes.”¹¹² This aspiration—that GMOs will be completely eliminated—will likely never transpire, given the current prevalence of GMOs and the nature of the global economy.¹¹³

D. Legal Challenges to GMO Labeling Laws

Labeling requirements on products for purchase are an issue of commercial disclosure, a subcategory of protected speech under the First Amendment.¹¹⁴ Laws that impose limitations on commercial speech are subject to intermediate scrutiny.¹¹⁵ However, appellate decisions concerning the constitutionality of labeling laws indicate that surviving intermediate scrutiny may be challenging even for the recently-passed Safe Act.

In the Vermont District Court case which ultimately denied a preliminary injunction against the state’s labeling law,¹¹⁶ the Court applied a reasonable relationship test, relying on *Zauderer v. Office of Disciplinary Counsel of the Supreme Court of Ohio*.¹¹⁷ In *Zauderer*, the Supreme Court held that “disclosure requirements [must be] reasonably related to the State’s interest in preventing deception of consumers.”¹¹⁸ In order for *Zauderer* to apply rather than a higher level of scrutiny, the questioned speech must be commercial in nature, purely factual rather than controversial, and supported by an interest in something more than merely satisfying the

111. See Donna M. Byrne, *Cloned Meat, Voluntary Food Labeling, and Organic Oreos*, 8 PIERCE L. REV. 31, 49 (2009) (“[I]n a sense, there is no truly voluntary labeling.”).

112. *Genetic Engineering*, GREENPEACE INTL., <https://perma.cc/63M7-MBTF> (last visited Aug. 23, 2017).

113. In the European Union, only GM crops that have passed an assessment by the European Food Safety Authority and undergone a regulatory process by the European Commission may be cultivated. Margaret Rosso Grossman, *European Community Legislation for Traceability and Labeling of Genetically Modified Crops, Food, and Feed* in LABELING GENETICALLY MODIFIED FOOD 32, *supra* note 25. Individual European countries may impose prohibitions on the cultivation of GM products. Alexandra Sifferlin, *Over Half of E.U. Countries are Opting Out of GMOs*, TIME (Oct. 3, 2015), <https://perma.cc/7WJC-GYS3>.

114. See *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm’n of N.Y.*, 447 U.S. 557 (1980).

115. *Id.* If a commercial communication “is neither misleading nor related to unlawful activity,” then the government must prove that it has a “substantial interest” in regulatory power, and the regulation must be proportionate and “designed carefully” to achieve the government interest. *Id.* at 564.

116. *Grocery Mfrs. Ass’n v. Sorrell*, 102 F. Supp. 3d 583 (D. Vt. 2015).

117. 471 U.S. 626 (1985).

118. *Id.* at 651.

curiosity of consumers, or in other words, the consumers' right to know.¹¹⁹ The court found that "some of the State's interests arguably border on the appeasement of consumer curiosity," but looked only for a reasonable relationship for purposes of denying the preliminary injunction.¹²⁰ It did not rule out the possibility, however, that the law would ultimately have to withstand intermediate scrutiny.¹²¹

An earlier Vermont labeling law did not survive a motion for preliminary injunction.¹²² In 1994, the state enacted a statute requiring dairy producers to include disclosures on their product labels if the cows used to make their products had been treated with rBST, a synthetic growth hormone.¹²³ The Second Circuit held that the defendants would likely suffer irreparable harm because of the statute, which trampled on their "constitutional right *not* to speak."¹²⁴ When evaluating the likelihood of the defendants' success on the merits, the court concluded that Vermont did not have a substantial interest in the adoption of the statute because the law was justified on the basis of "the public's right to know."¹²⁵ The right to know, according to the court, is "insufficient to justify compromising protected constitutional rights."¹²⁶

The New York City Board of Health adopted a regulation in 2006 requiring certain restaurants to publish the calorie content of their products so as to be conspicuously displayed to customers before they order.¹²⁷ The New York State Restaurant Association (NYSRA) challenged the regulation, seeking a preliminary injunction on the ground that, among others, the disclosure requirement was a form of compelled speech that violated restaurants' First Amendment rights.¹²⁸ NYSRA was fighting for heightened scrutiny, but the Second Circuit applied only rational basis review.¹²⁹ In deciding whether a reasonable relationship existed between the

119. *Id.*

120. *Sorrell*, 102 F. Supp. 3d at 631.

121. *Id.* at 633.

122. Intl. Dairy Foods Ass'n, 92 F.3d 67 (2d Cir. 1996).

123. *Id.* at 69.

124. *Id.* at 71.

125. *Id.* at 73.

126. *Id.*

127. *N.Y. State Rest. Ass'n v. N.Y. City Bd. of Health*, 556 F.3d 114, 120–21 (2d Cir. 2009).

128. *Id.*

129. *Id.* at 132.

Commercial disclosure requirements are treated differently from restrictions on commercial speech because mandated disclosure of accurate, factual, commercial information does not offend the core First Amendment values of promoting efficient exchange of information or protecting individual liberty interests. Such disclosure furthers, rather than hinders, the First Amendment goal of the discovery of truth and contributes to the efficiency of the 'marketplace of ideas.' Protection of the robust and free flow of accurate information is the principal First Amendment justification for protecting commercial speech, and requiring disclosure of truthful information promotes that goal. In such a case, then, less exacting scrutiny is required than where truthful, nonmisleading commercial speech is restricted.

requirement and purpose of the New York regulation, the court detailed the alarming prevalence of obesity and obesity-related diseases in the City and examined the City's statistical evidence linking these health problems to consumers eating unhealthy food in restaurants, unwittingly consuming an excessive amount of calories.¹³⁰ Given the validity, quality, and wealth of the evidence, the City's regulation easily stood up to this low level of scrutiny.¹³¹

In 2014, the D.C. Circuit ruled on the constitutionality of a statute promulgated by the USDA which required certain meat products to be labeled with their countries of origin.¹³² The Court ultimately found that the government had a substantial interest in providing consumers with country-of-origin details in order to protect American industry,¹³³ but rejected the argument that the labeling requirement was justified by the government's interest in "providing consumers with information."¹³⁴ Such broad contentions would "be true of any and all disclosure requirements" and would effectively preclude the success of any legal challenges.¹³⁵

These cases suggest that the consumers' "right to know" may be considered a legitimate justification for disclosure requirements, but the imparted knowledge must impact a consumer in such a way that will further the government interest. If restaurant-goers can clearly see that a "taco salad contains 840 calories,"¹³⁶ they will hopefully pick less caloric options. If Americans overeat at restaurants less frequently, they will lose weight and reduce the country's obesity rate. In the same vein, if people perusing the supermarket can readily identify which items were produced in the United States, they may choose a domestic product rather than an imported one. Purchasing American products will help American workers and companies who are competing with the global market.

When the government seeks to justify a restriction on commercial speech, its justification "is not satisfied by mere speculation or conjecture; rather, a governmental body seeking to sustain a restriction on commercial speech must demonstrate that the harms it recites are real and that its

Id. (quoting *Nat'l Elec. Mfrs. v. Sorrell*, 272 F.3d 104, 113–14 (2d. Cir. 2001)).

130. *Id.* at 120.

131. *Id.* at 134–37.

132. *Am. Meat Inst. v. U.S. Dep't of Agric.*, 760 F.3d 18 (D.C. Cir. 2014).

133. The court addressed the "[g]overnment's historically rooted interest in supporting American manufacturers, farmers, and ranchers as they compete with foreign manufacturers, farmers, and ranchers." *Id.* at 32. Providing country-of-origin information on meat packaging would give consumers the opportunity to easily choose American products over products imported from other countries. *Id.*

134. *Id.* at 31.

135. *Id.*

136. *N.Y. State Rest. Ass'n*, 556 F.3d at 121.

restriction will in fact alleviate them to a material degree.”¹³⁷ This is the primary legal problem faced by labeling-advocates in the case of GMOs. Even the studies claiming that GMOs are malignant are not in accord as to the purported destructive effects of GMOs,¹³⁸ giving no legally viable basis to arguments based in the effect on health.

III. LIKELY EFFECTS OF NEW FEDERAL LEGISLATION

Even if the Safe Act is eventually repealed or struck down, it will be nearly impossible for subsequent state labeling laws to avoid a similar fate.¹³⁹ First Amendment jurisprudence creates potentially insurmountable obstacles against GMO labeling requirements that are put in place to address the “risks” of GMOs, as well as ones which intend to protect the consumers’ right to know.¹⁴⁰

Despite the attention and outcry focused on labeling schemes, the free market appears to be working effectively, giving anti-GMO proponents power over big agri-business despite legislative failures.¹⁴¹ The negativity surrounding GMOs has caused many consumers to actively seek non-GMO products, giving that segment of the market a significant profit upsurge.¹⁴² Farmers are also switching.¹⁴³ GM seeds may cost nearly twice as much as seeds without GM traits.¹⁴⁴ Although some farmers claim to have seen the increased yields promised by biotech companies, their profits are falling along with the price of their corn and soybeans.¹⁴⁵ People are paying a premium for non-GMO items, and therefore farmers have the potential to earn far more by cultivating crops free from genetic modification, even if they consequently spend more on farm chemicals.¹⁴⁶ Some of the biggest players in the food industry, including General Mills and Post, have begun

137. *Grocery Mfrs. Ass’n v. Sorrell*, 102 F. Supp. 3d 583, 641 (D. Vt. 2015) (quoting *Fla. Bar v. Went For It, Inc.*, 515 U.S. 618 (1995)).

138. See *Health Risks*, INST. FOR RESPONSIBLE TECH., <https://perma.cc/6FZ7-TF9V> (last visited Sept. 9, 2017) (claiming that GMO consumption leads to infertility and accelerated aging); Arjun Walia, *New Study Links GMOs to Cancer, Liver/Kidney Damage & Severe Hormonal Disruption*, COLLECTIVE EVOLUTION (July 15, 2014), <https://perma.cc/LD4V-UE7C> (claiming that GMO consumption causes cancer as well as damage to hormones and organs).

139. See discussion *supra* Part II.D.

140. *Id.*

141. See discussion *supra* Part II.C.

142. Jacob Bunge, *Fields of Gold: GMO-Free Crops Prove Lucrative for Farmers*, WALL ST. J. (Feb. 2, 2015, 3:41 PM), <https://www.wsj.com/articles/fields-of-gold-gmo-free-crops-prove-lucrative-for-farmers-1422909700>.

143. Hakim, *supra* note 98.

144. *Id.* A 50,000-seed bag of Roundup Ready corn seeds costs about 153 dollars, while corn seeds without genetic engineering cost about eighty-five dollars. *Id.*

145. Bunge, *supra* note 142. Corn prices have fallen fifty percent over the last two years; soybean prices have fallen thirty-five percent. *Id.*

146. *Id.*

to manufacture GMO-free products, a significant action considering the volume of genetically engineered corn and soy purchased by such companies.¹⁴⁷

Monsanto's Executive Vice President and Chief Technology Officer had a cutting reply to reporters claiming that the biotech industry is failing to live up to its promises regarding genetic engineering: "[F]armers are smart business people who won't waste time or money on tools that don't deliver results."¹⁴⁸ He ended his rebuke with the assertion that "the voice of the farmer should be represented."¹⁴⁹ His statements ring true, though perhaps not in his favor.

The Safe Act is a weak mandatory labeling scheme, which has been derisively equated to a voluntary one.¹⁵⁰ Yet even if the potency of its provisions render it essentially voluntary, it is likely to have an effect similar to that of a strong labeling scheme due to the driving power of the market.¹⁵¹ If certain products are labeled GMO-free, consumers will, based on polls evidencing consumer preference for food made without GMOs, choose those products over their non-labeled, GMO-free counterparts.¹⁵² Companies who don't use GM ingredients will be encouraged to label their products as GMO-free, thereby incurring the costs that come along with it and transferring the cost to the consumer.¹⁵³ When some food items contain labels advertising themselves as made without GM ingredients, comparable items that lack such a label will be viewed as inferior by a discerning consumer, who will probably be willing to pay a premium for the product that he deems safer or of better quality.¹⁵⁴ Although the FDA prohibits labels that suggest that GMO-free foods are healthier, safer, or in any way superior to foods containing GM ingredients, it cannot control consumer bias.¹⁵⁵ Even if the product labeled as made without GM ingredients

147. *Id.*

148. Robert T. Fraley, Letter to the Editor, *Monsanto, on Genetically Modified Crops*, N.Y. TIMES (Nov. 11, 2016), <https://www.nytimes.com/2016/11/12/opinion/monsanto-on-genetically-modified-crops.html>.

149. *Id.*

150. *See supra* note 44 and accompanying text.

151. *See generally* Byrne, *supra* note 111.

152. *Id.* at 49.

153. *Id.*

154. *Id.* at 48–49. The author explains that voluntary labeling schemes are "de facto" mandatory, because once one product sports a claim that it possesses a positive characteristic (in this case, no GM ingredients), it will be viewed as better than the same product that cannot make the same claim. *Id.* "If wild fish is good, then there must be something bad about farm-raised fish. If 'no GMOs' is worth mentioning, then GMOs must be bad Once some producers use a label, other products bear a de facto label in the opposite direction." *Id.* at 49.

155. *See Guidance for Industry, supra* note 32; *see also* Thomas O. McGarity, *Frankenfood Free: Consumer Sovereignty, Federal Regulation, and Industry Control in Marketing and Choosing Food in the United States*, in LABELING GENETICALLY MODIFIED FOOD 142, *supra* note 25, at 142. The FDA allowed milk producers to state on their bottles that their milk came from cows that were not treated

disclaims that it is no better for health than a similar product made with GM ingredients, the public attitude toward GMOs may make such a statement irrelevant to consumers.¹⁵⁶ Though the impending mandatory regulatory scheme will allow producers to hide information behind smart-phone accessible bar codes or directions to their websites, they will still not be permitted to tout their products as made without GM ingredients, while other products will.¹⁵⁷ As discussed in the previous section, labeling efforts even in the absence of a comprehensive regulatory scheme have begun to affect the largest producers and distributors of GMOs. Consumers who care deeply about the absence of genetically engineered ingredients in their food will not be deceived by the new scheme, but even less-discerning consumers may choose more expensive products (which sport obvious assurances of being free from GMOs), rather than ones with more enigmatic labels that effectively equate to no GMO label at all.¹⁵⁸

Although all products covered by the Safe Act will still be subject to the limitations imposed by the FDA, concerns remain that products containing unacceptable levels of GM ingredients will be able to permissibly bear a “GMO-free” label under the Safe Act.¹⁵⁹ This potential risk is reduced, however, by the presence of independent organizations who provide verification that products comply with their own standards, which are unrelated to any standards the government may impose.¹⁶⁰ The conspicuous label of perhaps the most prominent verification organization, the Non-

with the hormone rBST, but required an additional disclaimer stating that there was no evidence showing that milk derived from cows treated with the hormone was any different than the milk from cows without it. *Id.*

156. Peters & Lambert, *supra* note 82, at 163. In the case of rBST, even milk producers who did not treat their cows with the hormone chose not to provide labels stating as such, in light of the FDA requirements that they must essentially also disclaim that this made their product no better than another which contained rBST. *Id.* Therefore, most consumers could not learn simply from looking at the cartons which milk came from rBST treated cows and which did not. *Id.* However, evidence shows that even though the public is constantly reassured that GMOs are not harmful to human health, most people are still wary. It is unlikely that a label disclaiming any beneficial health effects of *not* eating GMOs would change their minds.

157. Act of July 29, 2016, Pub. L. No. 114-216, 130 Stat. 834, 834–39 (2016).

158. Byrne, *supra* note 111, at 64. Consumers who are very knowledgeable about the content of their food will not be misled by labels. *Id.* Theoretically, consumers who do not care strongly about GMOs would choose the foods that are not labeled as GMO free; however, this may not be the case. *Id.* at 60. Byrne explains:

Sometimes people make choices that increase their welfare based on misunderstandings or based on false assumptions. If choices that increase welfare are desirable, then they are the ‘right’ choices. Reasoning based on false information or misapprehension is to be avoided, and thus represents a ‘wrong’ reason. In other words, sometimes people make the right choices for the wrong reasons.

Id.

159. Safe Act, *supra* note 157.

160. See, e.g., *About*, NON-GMO PROJECT, <https://www.nongmoproject.org/about/> (last visited Aug. 23, 2017).

GMO Project, can be found on close to 40,000 products, from baby formula to wine, condiments to dog treats, vitamins to make-up.¹⁶¹ The non-profit applies different levels of inspection depending on the likelihood that a product contains GM ingredients; products containing ingredients that are commonly GM are subject to more extensive testing.¹⁶² Products will retain their Non-GMO certification so long as the “GMO contamination” level in a product does not rise above certain thresholds.¹⁶³ Because the federal labeling scheme cannot extinguish verification efforts by independent organizations, they provide another layer of assurance that a product is GMO-free, and therefore another purchasing cue for consumers who are attempting to avoid products containing GMOs. An item with a seal of approval from the Non-GMO Project may seem more appealing to consumers than items that are self-proclaimed as GMO-free.¹⁶⁴

CONCLUSION

Even with the security of an impending federal regulatory scheme imposing mandatory labeling requirements on foods containing GMOs, the future of GMO disclosure laws is still uncertain. Although there are many potentially legitimate reasons for consumers to want to avoid eating GM foods, labeling laws that are derived solely based on the nebulous notion of a consumers’ right to know rest on shaky ground.¹⁶⁵ Once implemented, the Safe Act may not serve as the robust and comprehensive mandatory labeling bill that pro-consumer advocates had hoped for, but even with its shortcomings it will help to effectuate the anti-GMO agenda.¹⁶⁶ Americans who care about their food’s contents will not be fooled by dubious labels, and even those who do not care will be subliminally coaxed into buying non-GMO products.¹⁶⁷ GMOs will almost certainly never disappear from farms or from products in grocery stores, but the market’s response to federal legislation will diminish their presence and create a better-informed consumer.¹⁶⁸

161. *Id.*

162. NON-GMO PROJECT, NON-GMO PROJECT STANDARD (2016), <https://perma.cc/L4LX-R5S7>.

163. *Id.* at 7, 10. For example, the level of GMOs cannot rise above .9 percent for human food and products ingested or used directly on the skin, and not above five percent for animal feed and supplements. *Id.* at 11.

164. *See* Byrne, *supra* note 111 and accompanying text.

165. *See* discussion *supra* Part II.D.

166. *See* discussion *supra* Part III.

167. *See* discussion *supra* Part III.

168. *See* discussion *supra* Part III.

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