University of Dayton Law Review

Volume 43 | Number 1 Article 6

1-1-2018

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Cover Page Footnote

A special thanks to the *Dayton Law Review* for your contributions to this Comment. I would like to thank my family and boyfriend for their constant love and support throughout law schoo. I am forever thankful for my parents, Don and Betsy Mclaughlin, for being my inspiration; I am where I am today because of you. Above all, with God all things are possible.

A LABEL LAW THAT REQUIRES NO LABEL

*Amy McLaughlin**

I. INTRODUCTION

On July 29, 2016, President Barack Obama signed legislation that establishes a national standard for the mandatory disclosure of bioengineered foods, known as genetically modified organisms ("GMOs").[1] This labeling requirement provides alternative forms of disclosure for food manufacturers in labeling products that have been bioengineered.[2] While on its face this requirement appears to benefit consumers by providing mandatory disclosure of information to the ninety percent of Americans who want to know what is in their food, a closer evaluation reveals serious concerns with the labeling law.[3] The major concern with S. Res. 764 is that it requires no actual on-the-package label.[4]

S. Res. 764 adversely impacts consumers because it denies Americans the unimpeded right they should have—the right to know what is in the food they consume. The initial bill, H.R. 1599 and the enacted compromise, S. Res. 764, are collectively known as the Deny Americans the Right to Know Act, or the "DARK Act," because of the inaccessible forms of disclosure that food manufacturers are required to place on their products.[5]

Whether a food product contains GMO ingredients is not actually required to be listed on the packaging of the product. Instead, S. Res. 764 requires food manufacturers to disclose GMO products by placing either text, symbol, telephone number or a QR code on the package.[6] The language next

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[1] National Bioengineered Food Disclosure Standard, Pub. L. No. 114-216, 130 Stat. 834 (2016) (hereinafter referred to as 'S. Res. 764'); GMOs are "genetically [engineered] foods [that] are . . . derived from organisms whose genetic material (DNA) has been modified in a way that does not occur naturally . . . ." WORLD HEALTH ORGANIZATION, *Food, Genetically modified*, http://www.who.int/topics/food_genetically_modified/en/ (last visited Oct. 21, 2017).

[2] *See generally* 130 Stat. 834 (2016).

[3] Rick North, *GMO Labeling Bill. What a Shame. What a Sham*, BLUE OREGON (Aug. 3, 2016), http://www.blueoregon.com/2016/08/gmo-labeling-bill-what-shame-what-sham/; *see also*, GMO OMG (Jeremy Seifert 2013).

[4] *Id.*

[5] *Senator Stabenow and Senator Roberts GMO Labeling Legislation*, JUST LABEL IT, http://www.justlabelit.org/dark-act/ (last visited Oct. 21, 2017).

to the phone number does not mention GMO. Instead, it states: "Call for more food information."[7] The same is true for the QR code, which provides: "Scan here for more food information."[8] Consumers will be forced to call a number or scan a QR code with a smartphone while shopping at a grocery store to obtain information about each and every item that raises concerns. As a result of S. Res. 764, Americans are kept in the dark because they are denied truly accessible information.

S. Res. 764 is problematic for a number of reasons. First, it preempts all state laws pertaining to GMO labeling. S. Res. 764 has a preemption clause that prohibits any state from establishing labeling requirements for food or seed in interstate commerce.[9] In particular, Vermont's on-the-package label law required items to state "produced with genetic engineering," but its work was swiftly nullified by the enactment of S. Res. 764.[10] Vermont was not the only state directly impacted; Maine, Connecticut, and thirty-one other states recently passed or had pending legislation to enact their own GMO labeling laws.[11] While preemption may offer a more workable standard, each state has a right to enact laws that are in the best interest of its citizens.

Second, there are several reasonable alternatives that promote transparency and accessibility by providing GMO information directly on the package. A notable example is Vermont's Consumer Protection Rule 121 ("CP 121"), which was enacted in response to its citizens' requests for transparency.[12] The Vermont legislature spent several years creating a vetted law that required an on-the-package label and imposed penalties for noncompliance. Additionally, the federally proposed alternative, the Biotechnology Food Labeling Uniformity Act ("S. 2621"), could provide consumers with the information they want to know without placing unfair or conflicting restrictions on food companies.[13] This proposed alternative would require manufacturers to disclose the presence of genetically engineered

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[6] A QR Code is "a matrix bar code . . . that is read by photographing it with the camera of a smartphone . . . ." Collins English Dictionary, *QR Code*, DICTIONARY.COM, http://www.dictionary.com/browse/qr-code (last visited Oct. 21, 2017); A QR Code is "a matrix bar code that is read by photographing it with the camera of a smartphone . . . ." Collins English Dictionary, HARPERCOLLINS PUBLISHERS (Sept. 1, 2016), http://www.dictionary.com/browse/qr-code; National Bioengineered Food Disclosure Standard, Pub. L. No. 114-216, § 293(a)(2)(D), 130 Stat. 834 (2016).

[7] § 293(d)(1)(B).

[8] § 293(d)(1)(A).

[9] § 295(b).

[10] Phil Lempert, *Sorry Food Industry, The Historic GMO Food Labeling Bill Is Anything But*, FORBES (Aug. 1, 2016, 1:24 PM), http://www.forbes.com/sites/phillempert/2016/08/01/sorry-food-industry-the-historic-gmo-food-labeling-bill-is-anything-but/#6d205d375e39; § 295(b).

[11] Brian Barth, *GMO Labeling Legislation: Modern Farmer's Guide to the Mayhem*, MODERN FARMER (April 1, 2016, 2:03 PM), http://modernfarmer.com/2016/04/gmo-labeling/.

[12] 06-031 Vt. Code R. § CP 121 (2016).

[13] Jeff Merkley, *Merkley, Leahy, Tester, Feinstein Introduce GMO Food Labeling Legislation*, (March 2, 2016), https://www.merkley.senate.gov/news/press-releases/merkley-leahy-tester-feinstein-introduce-gmo-food-labeling-legislation, [hereinafter *Food Labeling Legislation*].

ingredients on the Nutrition Fact Panel in a number of ways.[14]

Finally, S. Res. 764 could substantially preclude further research, discussion, and information sharing, as the law conveys the implicit message that GMOs are safe for consumption and the environment. This presumption of safety undoubtedly overshadows the remaining public policy considerations that question Congress' enacted belief that GMOs are completely safe for humans and the environment. This debate was largely brought to the floor by citizens who expressed that they wanted to know whether their food contained GMOs because of the potential health and environmental concerns.[15] This law's roots are grounded in those expressed fears. The public policy considerations could not withstand the corporate interests of biotechnology food companies that spent millions in a successful attempt to pass S. Res. 764.[16]

This Comment will begin with a discussion of the background and passage of S. Res. 764. The analysis will then explain the main points of contention: the preemption of state laws, available alternatives, and the underlying public policy considerations that support the stance that S. Res. 764 is not an acceptable federal standard. While preemption raises Tenth Amendment concerns, a federal mandate may likely be more manageable than a state-by-state patchwork system. However, S. Res. 764 is not the ideal standard. The comparative analysis of alternatives in this Comment supports the argument by identifying the serious problems S. Res. 764 creates and it explains why the alternatives are in fact the more appropriate standard.

In addressing the highly-contested topic of GMOs, the solution is simple: give the American people what they desire and should have the right to know. Americans have been kept in the dark long enough. An actual on-the-package label will promote informed decisions in selecting healthier food options; encourage consumers to become more knowledgeable about genetically engineered foods; further the discussion of GMO safety; and an actual on-the-package label will hold food companies to a higher standard by requiring accessible disclosure.

II. BACKGROUND

From the Supreme Court's holding in Diamond v. Chakrabarty, to the FDA's policy, and the demand for transparency, the background leading up to the passage of S. Res. 764 illustrates a path of decisions that would ultimately have a negative impact on the American people. Public concern was ignored, federal policy was established by former biotechnology

[14] BIOTECHNOLOGY FOOD LABELING UNIFORMITY ACT, S.2621, 114th Cong. §2 (2D SESS. 2016), https://www.congress.gov/114/bills/s2621/BILLS-114s2621is.pdf.

[15] *See generally* 130 Stat. 834 (2016).

[16] *Id.*

employees, and deliberative state laws that represented public outcry were swiftly overturned by the pockets of big agricultural companies in the passage of a compromise bill.

A. Diamond v. Chakrabarty *(Patenting Genetically Engineered Bacteria)*

In Diamond v. Chakrabarty, the United States Supreme Court considered whether genetically engineered bacteria were a patentable subject matter. Prior to this case, living materials were not patentable. According to 35 U.S.C § 101, an invention must be a "new and useful . . . manufacture, or composition of matter . . . ." [17] Chakrabarty argued that his invention was a "nonnaturally occurring manufacture or composition of matter--a product of human ingenuity 'having a distinctive name, character, [and] use.'"[18] The Court held that, "the patentee produced a new bacterium with markedly different characteristics from any found in nature and one having the potential for significant utility."[19] Thus, the genetically engineered bacteria constituted a manufacture or a composition of matter within the meaning of § 101, and qualified as patentable subject matter.[20]

In the 5–4 decision, the dissent in Chakrabarty expressed concern about extending the patent system to living material by stating, "Congress plainly has legislated in the belief that § 101 does not encompass living organisms."[21] Congress enacted the Plant Patent Act and the Plant Variety Protection Act ("The Acts") to create a patent regime that would exclusively cover living things and, as the dissent explained, "[t]hese Acts strongly evidence a congressional limitation that excludes bacteria from patentability."[22] If § 101 includes plants, then why would Congress need to pass The Acts that specifically address living organisms? There is a strong argument that The Acts are superfluous if living organisms are already covered under § 101.

As stated in the dissent, "Congress thought it had to legislate in order to make agricultural 'human-made inventions' patentable and . . . it follows that Congress never meant to make items outside the scope of the legislation patentable."[23] The dissent further indicated that, "[i]t is the role of Congress, not this Court, to broaden or narrow the reach of the patent laws . . . where, as here, the composition sought to be patented uniquely implicates matters of

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[17] 35 U.S.C § 101 (2012).

[18] Diamond v. Chakrabarty, 447 U.S. 303, 309–10 (1980) (quoting *Hartranft v. Wiegmann*, 121 U.S. 609, 615 (1887)).

[19] *Id.* at 310.

[20] *Id.*

[21] *Id.* at 322.

[22] *See*, 35 U.S.C. § 161 (2012) (reports of Congressional committees did not include bacteria within the definition of plants); *see also* 7 U.S.C. § 2402(a) (2012) (expressly excluding bacteria within the definition of plant variety); *Chakrabarty*, 447 U.S. at 319.

[23] *Id.* at 321.

public concern."[24]

This patent law case has since dramatically altered the biotechnology industry and created a revolution by giving companies the authority to patent new "man-made" mechanisms to alter nature.[25] As the dissent correctly noted, it has been thirty-six years since the ruling in Chakrabarty and there is still public concern. The concern is now over whether biotechnology food companies should be required to label food that contains GMOs which are created with the use of these now patentable mechanisms of genetic engineering. Since 1980, the food industry has been mass producing and commercializing food with genetically engineered ingredients with little information and minimal regulation.[26]

B. Food and Drug Administration

After Chakrabarty and the revolution of the biotechnology food industry, one might naturally wonder how the Food and Drug Administration ("FDA") would be involved in safeguarding the regulation of food products with the newfound ability to patent living organisms. With regards to labeling, "[t]he Federal Food, Drug, and Cosmetic Act [("FD&C Act")] requires the . . . (FDA) to prevent consumer deception by clarifying that a food label is misleading if it omits significant 'material' information."[27] This act does not define "material," but the agency has interpreted it to "mean information about the attributes of the food itself."[28] For instance, the "FDA has required special labeling in cases where the absence of such 'material' information may: [] pose special health risks . . . ."[29]

In 1992, the FDA issued a policy statement that indicated the methods used to develop genetically engineered plants were not "material" within the meaning of 21 U.S.C. § 321(n).[30] The FDA believed the new techniques of genetic engineering were "extensions at the molecular level of traditional methods and will be used to achieve the same goals as pursued with traditional plant breeding."[31] The FDA stated that there was no "information showing that foods derived by these new methods differ from other foods in any

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[24] *Id.* at 322.

[25] Douglas Robinson & Nina Medlock, *Diamond v. Chakrabarty: A Retrospective on 25 Years of Biotech Patents*, 17 INTELL. PROP. & TECH. L.J. 12,12 (2005).

[26] *Id.* at 14.

[27] Just Label It Campaign, *So why has the FDA not acted?*, Just Label It, http://www.justlabelit.org/right-to-know-center/fda-ge-policy/ (last visited Oct. 21, 2017); *see also* 21 U.S.C. § 321(n) (2011).

[28] *Guidance for Industry: Voluntary Labeling Indicating Whether Foods Have or Have Not Been Derived from Genetically Engineered Plants*, FDA, (Nov. 2015), https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm059098.htm.

[29] *Id.*

[30] *Statement of Policy – Food Derived from New Plant Varieties*, FDA, (May 29, 1992), https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/Biotechnology/ucm096095.htm; *see also* 21 U.S.C § 321(n) (2012) [hereinafter *New Plant Varieties*]; *see also* 21 U.S.C § 321(n).

[31] *New Plant Varieties*, *supra* Note 30.

meaningful or uniform way, or that, as a class, foods developed by the new techniques present any different or greater safety concern than foods developed by traditional plant breeding."[32] Thus, the FDA did not believe methods of genetically engineering plants was "material" information and "would not usually be required to be disclosed in labeling for the food."[33]

This policy was partially developed by Michael Taylor, a former Monsanto attorney who was hired by the Bush Administration to fill the newly created position of Deputy Commissioner of Policy.[34] Michael Taylor has been criticized for his involvement with Monsanto and the FDA, where he has a reputation for being caught in the "revolving door."[35] With his questionable involvement in both the private sector and the federal government, the policy created during his term with the FDA was highly favorable to biotechnology companies because it did not mandate additional labeling requirements for genetically engineered foods.[36]

In September 2011, the Center for Food Safety filed a petition demanding that the FDA require mandatory federal labeling of GMOs.[37] The petition requested the FDA to issue new regulations for all genetically engineered foods by changing the definition of "material" to food at the genetic level and to issue new regulations requiring labeling of GMOs.[38] By March 2012, over 1.4 million Americans signed in support of labeling GMOs.[39] Because the FDA failed to require food companies to label GMO products, individual states took action and created label regulations.[40]

C. Vermont/H.R. 1599

After almost twenty years of the policy partially created by Michael Taylor, "[i]n May 2014, Vermont passed a new law requiring food products

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[32] *Id.*

[33] *Id.*

[34] Dave Murphy, *20 Years of GMO Policy that Keeps Americans in the Dark About Their Food*, THE HUFFINGTON POST (May 30, 2012, 10:34 AM), http://www.huffingtonpost.com/dave-murphy/dan-quayle-and-michael-ta_b_1551732.html; *see also Deputy Commissioners*, FDA, https://www.fda.gov/AboutFDA/WhatWeDo/History/Leaders/DeputyCommissioners/default.htm (last updated Oct. 23,2017).

[35] "A revolving door is the movement of high-level employees from public sector jobs to private sector jobs and vice versa. The idea is that there is a revolving door between the two sectors as many legislators and regulators become consultants for the industries they once regulated and some private industry heads receive government appointments that relate to their former private posts." *Revolving Door*, INVESTOPEDIA, http://www.investopedia.com/terms/r/revolving-door.asp (last visited Oct. 21, 2017); Gary Null, *Seeds of Death: Unveiling The Lies of GMOs*, YOUTUBE (May 23, 2013, 5:28), https://www.youtube.com/watch?v=a6OxbpLwEjQ.

[36] Jeffrey Smith, *Global GMO Scandal*, AMERICAN NUTRITION ASS'N, http://Americannutritionassociation.org/newsletter/gmo-foods-world-wide-scandal (last visited Oct. 21, 2017).

[37] *About the Petition to the Food and Drug Administration*, JUST LABEL IT http://www.justlabelit.org/right-to-know-center/fda-ge-policy/ (last visited Oct. 21, 2017).

[38] *Id.*

[39] *Id.*

[40] *GE Food Labeling: States Take Action*, CTR. FOR FOOD SAFETY (June 10, 2014), http://www.centerforfoodsafety.org/issues/311/ge-foods/fact-sheets/3067/ge-food-labeling-states-take-action.

made with genetically engineered ingredients to be labeled . . . ."[41] Connecticut and Maine passed similar laws, while thirty-one other states had pending legislation requiring labeling of GMOs.[42] In response to state efforts, Representatives Mike Pompeo and G. K. Butterfield introduced H.R. 1599 on March 25, 2015.[43] This bill would amend the Agriculture Marketing Act to establish a voluntary genetic engineering food certification program.[44]

H.R. 1599 has been referred to as the "DARK Act" because it set forth a voluntary label program that gave companies the discretion to inform Americans of whether its products had been genetically engineered.[45] "The bill, backed largely by House Republicans, codified a voluntary labeling system approach, which blocked the FDA from ever implementing mandatory genetically engineered food labeling, and allowed food companies to continue to make misleading "natural" claims for foods that contain GMOs."[46]

H.R. 1599 received harsh criticism that triggered outreach and campaigns that called on Congress to require transparency in the labeling of genetically engineered foods. Just Label It launched a campaign to encourage Congress to give the American people what they want, which is simply to know what is in their food.[47] Gary Hirshberg, Chairman of Stonyfield Farm and Just Label It said:

> Instead, they [companies like PepsiCo, Coca-Cola, and General Mills] continue to fund efforts that are exactly the opposite of what their consumers clearly want. It is clear that the tide of consumer support favors more transparency. Americans will now know how their representatives voted and that their favorite brands are keeping them in the dark.[48]

According to Andrew Kimbrell, Executive Director of Center for Food Safety, "[p]assage of this bill is an attempt by Monsanto . . . and its agribusiness cronies to crush the democratic decision-making of tens of millions of Americans. Corporate influence has won and the voice of the people has been ignored . . . ."[49]

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[41] Barth, *supra* Note 11.

[42] *Id.*

[43] *Senator Stabenow and Senator Roberts GMO Labeling Legislation*, JUST LABEL IT, http://www.justlabelit.org/dark-act/ (last visited Oct. 21, 2017); Safe and Accurate Food Labeling Act of 2015, H.R. 1599, 114th Cong. (2015).

[44] Safe and Accurate Food Labeling Act of 2015, H.R. 1599, 114th Cong. (2015).

[45] Stefanie Spear, *House Passes DARK Act, Banning States From Requiring GMO Labels on Food*, ECOWATCH (July 24, 2015, 9:58 AM), https://www.ecowatch.com/house-passes-dark-act-banning-states-from-requiring-gmo-labels-on-food-1882075093.html.

[46] *Keith A. Matthews, New genetically engineered foods disclosure law enacted, Lexology (Aug. 10, 2016), http://www.lexology.com/library/detail.aspx?g=ce9ddce0-3242-46e7-b69f-fc4a9fbc687f#5.*

[47] *About Just Label It*, JUST LABEL IT, http://www.justlabelit.org/about-just-label-it/ (last visited Oct. 21, 2017).

[48] Spear, *supra* Note 45.

[49] *Id.*

D. The Compromise—S. Res. 764

H.R. 1599 was not passed by the Senate and, "on March 16[,] 2016, the Senate failed, on a procedural vote, to move a companion voluntary labelling law."[50] Regardless of the inability to progress a bill, Senators Pat Roberts and Debbie Stabenow continued to work on a compromise approach.[51] On June 23, 2016, they announced S. Res. 764, which "mandates that the [United States Department of Agriculture ("USDA")] promulgate regulations establishing a mandatory disclosure regime for 'bioengineered foods.'"[52] On July 7, 2016, the bill passed the Senate by a vote of sixty-three to thirty, and on July 14, 2016, the House of Representatives passed S. Res. 764 by a vote of 306 to 117.[53] On July 29, 2016, President Obama signed S. Res. 764 into law.[54]

E. Language of S. Res. 764

"Given the intense controversy over the labelling of [genetically engineered] foods, passage of S. Res. 764 stands as a signature achievement of the 114th Congress."[55] S. Res. 764 represents a compromise law that mandates disclosure of information regarding genetically engineered foods, but gives food manufacturers substantial disclosure discretion. "Within two years of enactment, the USDA must promulgate regulations establishing a mandatory disclosure standard for bioengineered food."[56] "Once the USDA promulgates these regulations, any disclosure that a food is bioengineered must be in accordance with USDA regulations."[57] "[T]he disclosure [must] be either in the form of text, symbol, or an electronic or digital link, with the option to be selected by the food manufacturer."[58]

"The regulations must prohibit food from animals consuming [genetically engineered] feed from being considered to be bioengineered, and must exclude food served in restaurants and produced by 'very small food manufacturers.'"[59] Genetically engineered food that has met the federal pre-market review should not be treated as safer or less safe than food that has not been genetically engineered.[60] "This is consistent with the position of the U.S. regulatory agencies that [genetically engineered] foods present no

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[50] Keith A. Matthews, *New genetically engineered foods disclosure law enacted*, LEXOLOGY (Aug. 10, 2016), http://www.lexology.com/library/detail.aspx?g=ce9ddce0-3242-46e7-b69f-fc4a9fbc687f#5.
[51] *Id.*
[52] *Id.*
[53] *Id.*
[54] *Id.*
[55] *Id.*
[56] *Id.*
[57] *Id.*
[58] *Id.*; *see also* § 293(b)(2)(D).
[59] *Id.*
[60] *Id.*

unique risks when compared to conventional counterparts."[61]

A critical component of S. Res. 764 is the definition of "bioengineered." A "'bioengineered' food contains genetic material that has been modified through in vitro recombinant deoxyribonucleic acid (DNA) techniques and for which the modification could not otherwise be obtained through conventional breeding or found in nature."[62] S. Res. 764 "essentially limits the regulatory scope to foods that have not been processed to the extent that genetic material has been removed and for which the genetic modification could not be accomplished with sexually compatible organisms."[63]

However, many plants that may be developed in the future "using new gene-editing techniques such as CRISPR, TALENs, zinc finger nucleases, and RNAi, could conceivably be found in nature and could be developed through conventional breeding."[64] As a result, a large number of plants that have been genetically altered will not fall within the definition of "bioengineered" and will be outside the scope of the labeling law. The definition of "bioengineered" is a key aspect of S. Res. 764 because it controls the types of foods that are governed by the remaining provisions. Without a definition that accounts for the various types of gene-editing, food companies will continue to disclaim responsibility by not labeling genetically engineered products.

III. ANALYSIS

With an understanding of all the critical occurrences that led to the passage of S. Res. 764, this analysis discusses the primary issues with the new law. First, it preempts all state law. Second, there are alternative solutions that provide transparency in food disclosure. Lastly, the analysis will focus on the public policy of S. Res. 764 by discussing the potential health risks, environmental impact, and the presence of corporate influence in its passage.

A. Preemption

The preemption of state laws presents an interesting balance between a state's police power and congressional preemption authority. S. Res. 764 has an express preemption clause that undoubtedly prohibits any state from enacting GMO labeling laws that are in conflict with the federal standard. While a federal standard is the practical regulatory approach in this situation, we are left with a mandate that simply does not provide accessible information. Congress has not provided a federal GMO labeling requirement that accomplishes the clear and simple packaging requirements that states like

[61] *Id.*
[62] *Id.*
[63] *Id.*
[64] *Id.*

Vermont achieved in the passage of its law.

The Tenth Amendment provides states with inherent authority to enact laws to protect its citizens.[65] However, this police power can be limited by the authority Congress has to preempt state laws.[66] "[T]he doctrine of federal preemption is grounded in the Supremacy Clause of the United States Constitution [which] gives Congress the power to preempt state legislation as long as it is acting within the powers granted [to] it under the Constitution."[67] State laws that conflict or interfere with federal laws are invalidated.[68] Additionally, there are two types of federal preemption: express and implied.[69] Relevant to this analysis is express preemption. "Express preemption is properly found '[w]hen Congress has considered the issue of preemption and has included in the enacted legislation a provision explicitly addressing that issue . . . .'"[70]

Throughout history, "[s]tates have exercised their police powers to protect the health and safety of their citizens."[71] This power is supported by the notion that these concerns are "primarily, and historically . . . matter[s] of local concern . . . ."[72] Traditionally, "[s]tates have had great latitude under their police powers to legislate as to the protection of the lives, limbs, health, comfort, and quiet of all persons."[73] Additionally, the fact that states are "independent sovereigns in our federal system" provides further support for the authority to enact laws in the best interests of their citizens.[74]

Because states have traditionally acted on behalf of their citizens in enacting laws, Congress cannot cavalierly preempt state laws.[75] In addressing congressional preemption, courts "start with the assumption that the historic police power of the States were not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress."[76] The analysis then focuses on "'the purpose of Congress [which] is the ultimate touch-stone' in every preemption case."[77] Congress's intent is determined by looking at the

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[65] *Police Powers*, CORNELL UNIVERSITY LAW SCHOOL, (https://www.law.cornell.edu/wex/police_powers, (last visited Oct. 21, 2017).

[66] Stephen A. Gardbaum, *The Nature of Preemption*, 79 CORNELL L. REV. 767 (1994).

[67] U.S. Const. art. VI, cl. 2.; *see* Amanda G. Lewis, *Federal Preemption of State and Local Laws: State and Local Efforts to Impose Sanctions on Employers of Unauthorized Aliens* (May 5, 2008), http://www.law.columbia.edu/sites/default/files/microsites/career-services/Federal%20Preemption%20of%20State%20and%20Local%20Laws.pdf.

[68] *Id.*

[69] *Id.*

[70] M. Stuart Madden, *Federal Preemption of Inconsistent State Safety Obligations*, 21 Pace L. Rev. 103, 107 (2000).

[71] Medtronic, Inc. v. Lohr, 518 U.S. 470, 475 (1996).

[72] *Id.* at 475 (quoting Hillsborough County v. Automated Medical Laboratories, Inc., 471 U.S. 707, 719 (1985)).

[73] *Id.* at 475 (quoting Metropolitan Life Ins. Co. v. Massachusetts, 471 U.S. 724, 756 (1985)).

[74] *Id.* at 485.

[75] *Id.*

[76] *Id.* at 485 (quoting Hillsborough County v. Automated Medical Laboratories, Inc., 471 U.S. 707, 719 (1985)).

[77] *Id.*

language and the statutory framework surrounding the preemption statute.[78]

Turning to the express preemption language of S. Res. 764 § 295(b), it states in part, "[n]o State . . . may directly or indirectly establish under any authority or continue in effect as to any food or seed in interstate commerce any requirement relating to the labeling of whether a food or seed is genetically engineered . . . ."[79] Congress's intent to preempt state GMO label laws is clear from the plain language of the statute.[80] The context of the provision and the legislative history also demonstrate that it was the intent of Congress to preempt state laws.[81] "Where Congress has explicitly provided that federal law is exclusive, states cannot interfere with such federal exclusivity by prescribing additional or auxiliary regulations regardless of whether the regulations complement or further federal objectives."[82]

With Congress's federal preemption authority and its express intent to preclude state GMO label laws, the issue now becomes whether Congress is overreaching and how this affects states. A report by the United States Advisory Commission on Intergovernmental Relations described several factors that are contributing to a continued increase of federal preemption.[83]

> Such factors include: a "general trend of increased federal regulation;" "[t]he loosening of constitutional restraints on the exercise of congressional powers [where] expansive interpretations of the commerce clause, for example, have been the basis of many federal preemptions of state and local powers; . . .[further,] [j]udicial decisions [involving the interpretation of the Fourteenth Amendment and the U.S. Bill of Rights] have nationalized many facets of rights thereby authorizing and obligating the legislative and executive branches to follow suit; . . . the proliferation of interest groups;" and several other factors.[84]

With respect to the proliferation of interest groups, "some industry representatives have . . . [said] they would prefer to cope with one 500-pound gorilla in Washington than with [fifty] monkeys on steroids."[85] This is true for businesses who have pursued federal preemption because they have come to realize the political inevitability of regulation as well as the active role

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[78] *Id.* at 486.

[79] National Bioengineered Food Disclosure Standard, Pub. L. No. 114-216, § 293(b), 130 Stat. 834, 838 (2016).

[80] *Id.*

[81] *Id.*

[82] Lewis, *supra* Note 67.

[83] U.S. ADVISORY COMM'N ON INTERGOVERNMENTAL REL., FED. STATUTORY PREEMPTION OF ST. AND LOC. AUTH.: HIST., INVENTORY, AND ISSUES 37-38 (SEP. 1992), http://www.library.unt.edu/gpo/acir/Reports/policy/a-121.pdf.

[84] *Id.*

[85] *Id.*

states have accepted in representing consumer pressure.[86] This is evident with S. Res. 764 as food companies spent millions lobbying in opposition of state GMO labeling laws.[87] Such lobbying was a determining factor that led to the preemption of state laws.[88]

While the above factors justify the increase in federal preemption, the line between federal power and state sovereignty begins to fade. The "sheer scope of federal preemption . . . suggests an increasingly coercive system of intergovernmental relations."[89] This "rapidly advancing line of preemption . . . clearly needs to be monitored and evaluated by state and local governments together with their representatives in Congress."[90]

Particularly, states like Vermont have a vested interest in enacting laws that reflect the concerns and demands of its citizens. Such concerns include: "protecting Vermonters from potential health risks;" "preventing consumer confusion and deception;" "avoiding the environmental issues associated with producing genetically engineered foods;" and "protecting religious practices."[91] As Senator Bernie Sanders expressed during his opposition, "[t]his is significantly a state's rights issue and [S. Res. 764] is an assault on state rights."[92] Representative Jared Polis commented, "[s]tates should have the right to determine their own local laws relating to GMO labeling, and the federal government shouldn't interfere."[93]

However, from a practical standpoint, a uniform federal regulation may be the best solution to avoid a multi-state system. If each state were to adopt its own label requirements, it could become expensive and burdensome for food manufacturers to operate efficiently.[94] As noted by Senator Chris Holland, "[w]hile I do not believe that an inconsistent patchwork of individual state regulations is the long term answer, I do believe we could improve on the provisions of this bill."[95]

States are now unable to provide the protection they sought with

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[86] *Id.* at 38.

[87] *See infra* § III, C. 3.

[88] *Id.*

[89] U.S. ADVISORY COMM'N ON INTERGOVERNMENTAL REL., FED. STATUTORY PREEMPTION OF ST. AND LOC. AUTH.: HIST., INVENTORY, AND ISSUES 40 (SEP. 1992), http://www.library.unt.edu/gpo/acir/Reports/policy/a-121.pdf.

[90] *Id.* at 41.

[91] *Please Support H. 112 – Label GMOs Now!*, VERMONT RIGHT TO KNOW GMOS COALITION, http://www.vtrighttoknowgmos.org/wp-content/uploads/2014/04/GMO-bill-Top-Level-points.pdf.

[92] *Bernie Sanders: GMO Bill (S.764) does not provide, it denies information*, (C-Span) YOUTUBE (July 7, 2016, 15:31), https://www.youtube.com/watch?v=7Nxa9c8eWEw.

[93] Michael McAuliff, *House Votes to Ban States From Labeling GMO Foods*, THE HUFFINGTON POST (July 23, 2015, 3:16 PM), http://www.huffingtonpost.com/entry/gmo-labels-food_us_55b12fabe4b08f57d5d3f393.

[94] Alicia Corbett, *Preemption–Lessons from the Federal Disclosure Law*, THE NETWORK FOR PUBLIC HEALTH LAW (Aug. 12, 2016, 10:40 AM), https://www.networkforphl.org/the_network_blog/2016/08/12/808/preemption_lessons_from_the_federal_gmo_disclosure_law.

[95] 114 Cong. Rec. E1151 (daily ed. July 18, 2016) (statement of Rep. Van Hollen), https://www.congress.gov/crec/2016/07/18/CREC-2016-07-18-extensions.pdf.

requiring on-the-package GMO labels. If federal preemption is appropriate, that law should reflect the interests of those who reached out to their state representatives in an attempt to seek information about food products. Congress should adopt a uniform standard model that provides comprehensive and accessible information. One exceptional example of a potential regulatory national model is Vermont Consumer Protection Rule 121 ("CP 121").

B. Alternatives—A Comparative Analysis

Vermont has led the way in requiring food manufacturers to label their food products. CP 121 imposed a strict, but simple, requirement on food manufacturers to label GMO food products with the following: "Produced with Genetic Engineering." The Vermont legislature thoroughly considered the issue where it spent several years developing CP 121. It held over fifty hearings, the "[l]egislature heard hours of testimony from dozen[s] of stake holders including organic farmers and environmental organizations," and it withstood suit in upholding the legality of CP 121.[96] S. Res. 764, on the other hand, "was brought to the floor by procedural means without one hearing or one committee markup."[97]

1. Vermont Consumer Protection Rule 121

CP 121.02(b) mandated, "[a]ny packaged food produced with genetic engineering and offered for retail sale in Vermont . . . shall be labeled by the manufacturer . . . [with a] disclosure on [the] package [that is] clear and conspicuous and shall read 'Produced with Genetic Engineering.'" Section 121.04(e)(i) imposed "a civil penalty of not more than $1,000 per day, per product."[98]

It is important to note the critical distinction between labeling language and forms of disclosure. While inconspicuous on its face, after comparing CP 121 and S. Res. 764, one downfall of S. Res. 764 is clearly evident—it only lists forms of disclosure.

First, consider the labeling language of CP 121. Section 121.02(b), subsections (i) and (ii), clearly requires any packaged food produced with genetic engineering to include a label that states: "Produced with Genetic Engineering;" "Partially Produced with Genetic Engineering;" or "May be Produced with Genetic Engineering."[99] It further describes that "Partially" may be used "only when a processed food contains less than [seventy–five] percent genetically engineered material by weight," and "May be" is "used .

[96] Sanders, *supra* Note 92, at 5:51, 18:31, and 5:43.
[97] *Id.* at 18:46.
[98] 06-031 Vt. Code R. § CP 121, 121.04(e)(i) (2016).
[99] *Id.* at § 121.02(b)(ii).

. . only when the food's manufacturer does not know, after reasonable inquiry, whether the food is, or contains a component that is, produced with genetic engineering."[100]

By providing three options, the law gives manufacturers the ability to properly label their food by not forcing them into a certain category that may not necessarily reflect the contents of the food. By explicitly listing disclosure options, the law ensures that the wording is clear and uniform. Otherwise, food companies could choose language that may not be as conspicuous to the consumer. CP 121 provides a nice balance of consumer demand for transparency and the interests of food manufacturers by clearly defining simple, on-the-package disclosure options.

Second, S. Res. 764, unlike CP 121, does not list certain language to be used on the label. Instead, it requires various "forms" of disclosure. Those forms of disclosure include: "[t]ext, symbol, or electronic or digital link . . . ."[101] Nowhere in § 293(b)(2)(D) does it mention a label, nor the language that should be used. Forms of disclosure are not the same thing as labeling language. While forms of disclosure are necessary for a label requirement, without express GMO language, the law is useless and the purpose of having the mandatory disclosure requirement is not effectuated. Instead, the on-the-package language accompanying the QR code and phone number is: "Scan here for more food information," and "Call for more food information."[102] S. Res. 764 lists forms of disclosure on the package, but it does not provide explicit GMO language similar to that of CP 121.

Vermont, on the other hand, had a simple form of disclosure. CP 121.02(b)(i) provides that "[a]ny packaged food product with genetic engineering . . . shall be labeled by the manufacturer as follows: (i) Disclosures on packaged . . . ."[103] An on-the-package label similar to that of CP 121 would promote transparency and facilitate convenience for consumers.

Instead of an on-the-package label, S. Res. 764 mandates various forms of disclosure that call for complex, discriminatory, inaccessible, and possibly expensive measures, none of which were imposed by CP 121.

a. Complexity

In addressing the complexity of S. Res. 764 § 293(c)(1) Study of Electronic or Digital Link Disclosure, is of particular concern. Because the law provides for electronic forms of disclosure instead of an on-the-package

[100] *Id.* at § 121.02(b)(ii)(C).
[101] National Bioengineered Food Disclosure Standard, Pub. L. No. 114-216, § 293(b)(2)(D), 130 Stat. 834, 836 (2016).
[102] Id. at §§ 293(d)(1)(A), 293(d)(1)(B).
[103] § CP 121.02(b)(i) (emphasis added).

label, the Secretary of Agriculture must "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."[104] In conducting the study, the Secretary of Agriculture must consider whether consumers will be affected by the following factors:

> a. The availability of wireless internet or cellular networks.
>
> b. The availability of landline telephones in stores.
>
> c. Challenges facing small retailers and rural retailers.
>
> d. The efforts that retailers and other entities have taken to address potential technology and infrastructure challenges.
>
> e. The costs and benefits of installing in retail stores electronic or digital link scanners or other evolving technology that provides bioengineering disclosure information.[105]

Those factors identify possible concerns regarding implementation of S. Res. 764. A study that evaluates multiple challenges with the implementation of a law calls to question whether the law creates more problems that obstruct the main goal, which is to provide GMO information to consumers. While it is commendable that Congress thought through the possible challenges of requiring electronic disclosure, the forms create complexity that is unnecessary and can be avoided by simply requiring a disclosure on the package.

b. Discriminatory Impact

One form of disclosure is an electronic or digital link (QR Code) that states "[s]can here for more food information . . . ."[106] This may require the use of a smartphone if the grocery store does not have a device to scan the link. While for some it is hard to imagine life without smartphone technology, there are millions of Americans who do not have a smartphone at their fingertips.[107] In a study conducted by The Mellman Group, thirty-four percent did not have a mobile phone with a camera and touchscreen visual display and only two-thirds had a smartphone.[108] Of the thirty-four percent, the majority were older women and men and African American or Hispanic.[109]

This form of disclosure that some food manufacturers may choose to

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[104] § 293(c)(1), 130 Stat. at 836.

[105] *Id.* at § 293(c)(3).

[106] *Id.* at § 293(d)(1)(A).

[107] *President Obama Signs GMO 'Non-labeling' Bill, Leaves Millions of Americans in the Dark*, CTR FOR FOOD SAFETY (July 29, 2016), https://www.centerforfoodsafety.org/press-releases/4438/president-obama-signs-gmo-non-labeling-bill-leaves-millions-of-americans-in-the-dark#.

[108] The Mellman Group, *Findings from a National Survey of Likely 2016 General Election Voters*, JUST LABEL IT (Nov. 2015), http://www.justlabelit.org/wp-content/uploads/2016/02/15pre1123-d1-JLI-d9.pdf

[109] *Id.*

utilize "discriminates against low-income, rural, minority, and elderly populations."[110] Reverend Jesse Jackson sent a letter to President Obama raising concerns about the "serious questions of discrimination presented."[111] He also noted, "100,000,000 Americans, most of them poor, people of color, and elderly, either do not own a smart phone or an iPhone to scan the QR code or live in an area of poor internet connectivity."[112] He asked the President to veto the bill and correct "this fatal flaw."[113] Nonetheless, a simple, on-the-package label would address the potentially large number of Americans who will be unable to access information if this form of disclosure is selected by food manufacturers.

c. Inaccessible

The practical effect of scanning a QR code or calling a telephone number for each and every item at the grocery store is unimaginable. Picture a mom with children rushing through the store, fumbling through her things to find her phone, and the QR code app will not load because of poor internet connection or low battery.[114] Even if all necessary factors are present: there is internet connectivity, a full battery on your smartphone, and no rush to be somewhere else, consider how time consuming it would be to scan each and every item. Additionally, there are questions as to whether consumers are knowledgeable when it comes to using QR codes.[115] "A study found [eighty-three] percent of people [have] never scanned a QR code."116 Yet, this is a possible disclosure form with S. Res. 764.

d. Expense of Disclosure Forms

As previously mentioned, one of the factors considered in the Secretary of Agriculture's study is "[t]he costs and benefits of installing in retail stores electronic or digital link scanners or other evolving technology that provide bioengineering disclosure information."[117] Grocery stores across the United States are now responsible for facilitating the smooth imposition of S. Res. 764. They are now compelled to provide in store scanning machines and/or access to the internet. This was not an issue with CP 121

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[110] *president Obama Signs GMO 'Non-labeling' Bill, Leaves Millions of Americans in the Dark*, CTR FOR FOOD SAFETY (July 29, 2016), https://www.centerforfoodsafety.org/press-releases/4438/president-obama-signs-gmo-non-labeling-bill-leaves-millions-of-americans-in-the-dark#.

[111] Nancy Fink Huehnergarth, *Discriminatory Label Bill Heads to the President's Desk*, FORBES (July 14, 2016, 5:15 PM), https://www.forbes.com/sites/nancyhuehnergarth/2016/07/14/discriminatory-gmo-labeling-bill-heads-to-the-presidents-desk/#85872e34dc7b.

[112] *Id.*

[113] *Id.*

[114] Just Label It, *GMO Transparency in the Real World*, YOUTUBE (Apr. 27, 2016), https://www.youtube.com/watch?v=BSczuIAv3kE&feature=youtu.be.

[115] Fink, *supra* Note 111.

[116] *Id.*

[117] National Bioengineered Food Disclosure Standard, Pub. L. No. 114-216, § 293(c)(3)(E), 130 Stat. 834, 836 (2016).

because it mandated an on-the-package GMO label.

e. Discretion

Additionally, a law should not leave sole labeling discretion to food manufacturers because they may choose to disclose GMO products in a way that is more beneficial to their interests. This is exactly what S. Res. 764 does. In § 293(b)(2)(D), the form of food disclosure is "selected by the food manufacturer."[118] In a practical sense, how is this any different from the voluntary label requirement proposed by H.R. 1599 which gave food manufacturers the discretion to label or not label? Essentially, food manufacturers can volunteer information by providing some sort of GMO text or not volunteer information by selecting a QR code. A disclosure may be, in essence, non-existent to the consumer who does not have a phone to call the number or a smartphone to access information from a QR code. However, CP 121 requires all manufacturers to label food as "Produced with Genetic Engineering" on the package where there is minimal manufacturer discretion.[119]

f. Penalty

S. Res. 764 does not include a penalty for failure to provide proper disclosure. CP 121 on the other hand, imposed "a civil penalty of not more than $1,000 per day, per product."[120] It may be that the USDA will develop penalties for failure to comply with the federal law. In its current state, S. Res. 764 does not provide incentive for food manufacturers to comply. Unlike CP 121, which has the power to make food manufacturers comply, S. Res. 764 is a law that has no consequences for noncompliance.

As evident from this analysis, CP 121 is an excellent model for a national standard because it promotes transparency and focuses primarily on educating and protecting the American consumer. The principal focus should be the American people, and they want a simple label. S. Res. 764 does not consider the American consumer because it asks that they take additional steps to obtain information about their food. CP 121 has both form and substance with its "Produced with Genetic Engineering" on-the-package GMO label requirement.

CP 121 is not complex; in fact, it is as simple as identifying whether the manufacturer's products are genetically engineered and then affixing a label to the outside of the package. It does not require a study of multiple factors like S. Res. 764. There is no discriminatory effect with CP 121 because it does not require the use of smartphone technology to decipher

[118] *Id.* § 293(b)(2)(D).
[119] 06-031 Vt. Code R. §§ CP 121.02(b)(i) and (ii) (2016).
[120] § CP 121.04(e)(i).

whether the food contains genetically engineered ingredients.[121] An on-the-package label is accessible, easy to follow, and inexpensive. Notably, "[m]any major food companies, [like Campbell's, Frito-Lay, Kellogg's, and Conagra] are already complying with Vermont's Law."[122] As stated by Senator Bernie Sanders,

> What makes sense is to build on what Vermont has done, not come up with an unenforceable, confusing, weak piece of legislation paid for by the large food corporations in this country . . . . The issue of labeling of our food is not controversial . . . . It is something that the American people want; it's something common sense dictates . . . . People have a right to know what is in the food they eat . . . ." [123]

2. S. 2621 Biotechnology Food Labeling Uniformity Act

While CP 121 is a great model for a national standard, the Biotechnology Food Labeling Uniformity Act ("S. 2621") is another alternative that provides an on-the-package disclosure, unlike S. Res. 764. This proposed legislation was introduced in the Senate on March 2, 2016.[124] S. 2621 would amend the Federal, Food, Drug, and Cosmetic Act to create transparency and uniformity with respect to genetically engineered food.[125] The proposal required food manufacturers to disclose whether the product is genetically engineered by placing one of the following labels on the package:

1. Manufacturers may use a parenthesis following the relevant ingredient to indicate that this ingredient is "Genetically Engineered."
2. Manufacturers may identify [genetically engineered] ingredients with an asterisk and provide an explanation at the bottom of the ingredients list.
3. Manufacturers may simply apply a catch all statement at the end of the ingredient list stating the product was "produced with genetic engineering."
4. The FDA would have the authority to develop a symbol, in consultation with food manufacturers that would clearly and conspicuously disclose the presence of [genetically engineered] ingredients on packaging.[126]

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[121] 06-031 Vt. Code R. § CP 121 (2016).
[122] Sanders, *supra* Note 92, at 13:24.
[123] *Id.* at 19:53, 21:35, 21:44, and 21:52.
[124] BIOTECHNOLOGY FOOD LABELING UNIFORMITY ACT, S.2621, 114th Cong. §2 (2D SESS. 2016), https://www.congress.gov/114/bills/s2621/BILLS-114s2621is.pdf (last visited Oct. 21, 2017).
[125] *Id.*
[126] *Food Labeling Legislation, supra* Note 13; S. 2621 § 2(a)(3)(A)-(D).

Similar to CP 121, this proposal has both the necessary language and form. The language options are the words "genetically engineered" or the abbreviation "GE" with an asterisk followed with a genetically engineered statement, a statement that the food is "produced or partially produced with genetic engineering or contains genetically engineered ingredients," or a symbol.[127] The form of disclosure is an on-the-package label placed on the nutrition fact panel.[128] With an on-the-package label, it is easier for a consumer to identify GMO products, there is no discriminatory impact, the information is readily available, and there is minimal added cost to consumers or grocery stores.[129]

While this proposal does provide discretion to food manufacturers, the options on the package are more accessible for consumers. This discretion is beneficial for food manufacturers because they have the ability to provide information, via text or symbol, that best suits their interests. Unlike CP 121, food manufacturers are not required to place a particular text on the package. They have various options that will allow them to tailor the packaging in a way that aligns with their current product promotion.

Similar to S. Res. 764, this proposal does not include a current penalty for non-compliance. The Secretary of Agriculture is responsible for further implementation. Without a penalty, there is simply no incentive for food manufacturers. The strength of this bill is not completely diminished by the fact that it leaves future regulation to the Secretary of Agriculture. It could still look to CP 121 for guidance in imposing penalties. Furthermore,

> [this] bill is the kind of proposal that could bridge the divide between consumers and food companies on the issue of GMO labeling . . . [by giving] consumers the information they want, while allowing manufacturers the flexibility they say they need to implement mandatory on-package labeling.[130]

According to Oregon Senator Jeff Merkley, "[r]ather than blocking consumers' access to information they want, the United States Senate should move forward with a solution that works for businesses and consumers alike [and] this legislation [S. 2621] provides the common-sense pathway forward."[131] Additionally, "[t]his bill is an important step forward to give consumers a uniform national mandatory label, and it seeks to address the needs of food producers by giving them a suite of options to comply with a

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[127] S. 2621 §§ 2(a)(3)(A)-(D).

[128] S. 2621 § 2(a)(3)(C).

[129] Dr. Andrew Dyke and Robert Whelan, *GE Foods Labeling Cost Study Findings*, ECONORTHWEST (Sept. 12, 2014), https://consumersunion.org/wp-content/uploads/2014/09/GMO_labeling_cost_findings_Exe_Summ.pdf.

[130] *Food Labeling Legislation, supra* Note 13.

[131] *Id.*

mandatory national label."[132]

However, there are persuasive considerations against mandating an on-the-package GMO label. First, "[t]he right to know what is in food is different than the right to know what processes were used in its production."[133] Genetic engineering involves a process of manipulating genes to produce a product that has better qualities.[134] While placing a GMO label on the package does provide information about the process, that process involves manipulation that directly alters the substance of the food by "eliminating or rearranging specific genes using the methods of modern molecular biology . . . ."[135] Importantly, the debate is ongoing as to whether and to what extent this process poses any health risk.

According to the FDA, "the science of food safety has not identified differences in the composition or safety of food derived from commercialized [genetic engineering] . . . ."[136] However, the Center for Food Safety believes that "[g]enetically engineered foods are different from other foods," where it lists six possible health concerns.[137] Regardless, this discussion is just as much about the food, if not more, than the process. While the process is widely used and accepted, each new food product should be carefully assessed for consumer safety.[138]

Second, a mandatory GMO label requirement "uniquely singles out [genetic engineering] technology [and] not other production methods and processes . . . ."[139] While this is a persuasive argument, the process involves the manipulation of food where research presents data to support both the belief that it does not impact food and there are no health risks, and data that suggests the process may have an "unintended consequence . . . [of] significant alteration in levels of important nutrients."[140] An excerpt from an FDA report states:

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[132] *Id.*

[133] Alison Van Eenennaam, *Potential Impacts of Mandatory Labeling for GE Food in the United States*, UC DAVIS ANIMAL SCIENCE, http://web.uri.edu/foodsafety/files/Potential-Impacts-of-Mandatory-GMO-Labeling.

[134] "'Genetic engineering' can be defined as the manipulation of an organism's genes by introducing, eliminating, or rearranging specific genes using the methods of modern molecular biology, particularly those techniques referred to as recombinant deoxyribonucleic acid (rDNA) techniques." Alison Van Eenennaam, *Potential Impacts of Mandatory Labeling for GE Food in the United States*, UC DAVIS ANIMAL SCIENCE, http://web.uri.edu/foodsafety/files/Potential-Impacts-of-Mandatory-GMO-Labeling.

[135] *Id.*

[136] *Id.*

[137] *GE Food & Your Health*, CENTER FOR FOOD SAFETY, http://www.centerforfoodsafety.org/issues/311/ge-foods/ge-food-and-your-health# (last visited Oct. 21, 2017).

[138] Megan L. Norris, *Will GMOs Hurt My Body? The Public's Concerns and How Scientists Have Addressed Them*, HARV. U.: THE GRADUATE SCHOOL OF ARTS AND SCIENCE (Aug. 10, 2015), http://sitn.hms.harvard.edu/flash/2015/will-gmos-hurt-my-body/.

[139] Van Eenennaam, *supra* Note 133.

[140] *Id.*; *New Plant Varieties*, *supra* Note 30.

> Processing (e.g., cooking) may affect the safety of a substance. This is particularly important in the safety assessment of proteins transferred from one food source to another. For example, lectins, which are inactivated by cooking, would raise a safety concern if transferred from kidney beans, which are eaten cooked, to tomatoes, which may be eaten raw. The effects of any potential differences in food processing between the donor and the new plant variety should be carefully considered at each stage in the safety assessment.[141]

While genetic engineering processes may be singled out compared to others, it is necessary that "new technologies . . . work cooperatively with the [FDA] to ensure that . . . new products are safe and comply with applicable legal requirements."[142]

Finally, cost for food manufacturers could increase in two ways as a result of a mandatory label requirement. First, a Cornell study indicated that "[l]abeling . . . has real costs attributable to more expensive ingredients and the process of maintaining product identity and the labeling process itself, among others."[143] The report provided that these costs are significant where "the median estimates annually are $348 – $401 in California and $360 – $490 in Washington State for a family of four [which] will be paid for largely by food consumers in the mandatory labeling states."[144] Second, costs for food manufacturers could increase because of testing and certification in the use of non-genetically engineered ingredients.[145] "The costs to test an end product for the presence of [genetically engineered] DNA range from $179 for a qualitative test to $600 [per] sample for a qualitative assay . . . ."[146] Conversely, one study indicated that GMO labeling would impose a median cost of only $2.30 per person per year.[147]

However, a mandatory GMO label law provides consumers with the information they need to select food products that are right for them.[148] Notably, "[f]or labeled products, there is no necessity to change the

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[141] *Id.*

[142] *Id.*

[143] William Lesser & Susan E. Lynch, *Costs of Labeling Genetically Modified Food Products in N.Y. State*, DYSON SCHOOL OF APPLIED ECON. AND MGMT. CORNELL U. 7, http://publications.dyson.cornell.edu/docs/LabelingNY.pdf.

[144] *Id.*

[145] Van Eenennaam, *supra* Note 133.

[146] *Id.*

[147] Dr. Andrew Dyke and Robert Whelan, *GE Foods Labeling Cost Study Findings*, ECONORTHWEST 1 (Sept. 12, 2014), https://consumersunion.org/wp-content/uploads/2014/09/GMO_labeling_cost_findings_Exe_Summ.pdf.

[148] Andrea Rock, *Will GMO labeling boost your grocery bill? A new report commissioned by Consumer Reports says not by much*, CONSUMER REPORTS, (Oct. 16, 2014 03:45 PM), http://www.consumerreports.org/cro/news/2014/10/will-gmo-labeling-boost-your-grocery-bill/index.htm.

ingredients or processing activities."[149] GMO labeling does not force companies to change their products, "they just need to label those that . . . [contain genetically engineered ingredients], something they already do in [sixty-four] countries."[150] Furthermore, "[c]ompanies are constantly changing their food labeling for marketing reasons, or to meet consumer demand," where there would be an opportunity to indicate "the presence of [genetically engineered] ingredients during a regularly scheduled label change."[151]

As evident from the above discussion, each argument against a mandatory on-the-package GMO label is quickly dismissed by valid claims of inconclusive safety research, the need for further testing of new technologies, and the ability to affix a GMO label with minimal cost for consumers. Thus, a federal mandatory GMO label requirement is necessary to ensure consumers are informed when making purchasing decisions.

In comparison to the proposed alternatives, S. Res. 764 is an unacceptable mandate because it provides a complicated method of disclosure with no actual informative label that indicates whether the food has been genetically engineered. As a result, Congress should adopt a national mandate that resembles CP 121 and/or S. 2621 to ensure consumers have truly accessible information and to progress the ideal that Americans have the right to know what is in the food they consume.

C. Why it Matters (Public Policy Considerations)

This section focuses on three primary areas of concern: (1) health, (2) environment, and (3) corporate influence. The issues addressed by these concerns should not end with S. Res. 764. Research should continue to develop in order to ensure that American consumers are accurately informed of potential health risks and the possible environmental impact of GMOs.

In all facets of life, acknowledging the question 'Why does it matter?' is imperative. With the comparative analysis above, it is important to remember the underlying public policy considerations that triggered the current GMO debate and ultimately led to the passage of S. Res. 764.[152] One apparent interpretation of S. Res. 764 is that genetically engineered foods are presumed to be safe for consumption and the environment because of Congress's implicit approval with the passage of a GMO label law. The new law could significantly preclude further GMO research because it authorizes food manufacturers to continue using genetically engineered ingredients as

[149] Lesser & Lynch, *supra* Note 143 at 12.

[150] *GE Labeling Won't Raise Food Prices*, ENVIRONMENTAL WORKING GROUP & JUST LABEL IT, http://www.justlabelit.org/wp-content/uploads/2014/11/LV-info-C03.pdf (last visited Oct. 21, 2017).

[151] *Id.*; *see also* Rock, *supra* Note 148.

[152] National Bioengineered Food Disclosure Standard, Pub. L. No. 114-216, 130 Stat. 834 (2016).

long as they provide a telephone number or a QR code.

In order to comprehend the implications of the newly enacted law, a basic understanding of "genetically engineered" crops is critical. The most common types of genetically engineered crops are "Bt" and "Roundup Ready."[153]

"Bt, or bacillus thuringiensis, is a type of soil-dwelling bacteria that produces a protein toxic to many insects."[154] These "[c]rops are engineered to produce the Bt toxin within the plant itself, acting as a built-in insecticide."[155] The use of such crops has decreased the use of conventional synthetic insecticide.[156] Additionally, the EPA has found that Bt crops "do not pose any significant risks to human health."[157] Those studies showed that Bt protein in genetically engineered crops "is not structurally related to a known food allergen or protein toxin, and [it] does not show toxicity when administered orally at high doses."[158]

According to the EPA, Bt crops are "plant-incorporated protectants ("PIPs") [which] are pesticidal substances produced by plants and the genetic material necessary for the plant to produce the substance."[159] The process is described as follows:

> Some plants and other organisms naturally contain proteins or other chemicals that serve as a natural defense against pests . . . . For example, by transferring specific genetic material from a bacterium to a plant, scientists can create plants that produce pesticidal proteins or other chemicals that the plant could not previously produce. Using this technology, scientists have modified corn, cotton, and potatoes to produce a pesticidal protein that is toxic when ingested by specific insect pests. In this case, the [PIPs] are chemicals produced by plants whose DNA has been modified, as well as the DNA that produces the chemicals. The plant's modified DNA now expresses pesticidal properties by producing a bacterial protein that will protect

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[153] *What are the most common types of GMO?*, GMO INSIDE, https://web.archive.org/web/20170211002558/http://gmoinside.org/faqs/ (last visited Oct. 21, 2017).

[154] *Id.*; *see also* Jennifer Hsaio, *GMOs and Pesticides: Helpful or Harmful?*, HARV. U.:THE GRADUATE SCHOOL OF ARTS AND SCIENCE (May 25, 2015), http://sitn.hms.harvard.edu/flash/2015/gmos-and-pesticides/.

[155] *What are the most common types of GMO?*, *supra* Note 153.

[156] Hsaio, *supra* Note 154.

[157] *Id.*

[158] *Id.*

[159] *Overview of Plant Incorporated Protectants*, EPA, https://www.epa.gov/regulation-biotechnology-under-tsca-and-fifra/overview-plant-incorporated-protectants (last updated Aug. 22, 2017).

the plant from specific insects.[160]

"Both the protein and its genetic material are regulated by the EPA; the plant itself is not regulated."[161] Accordingly, "a bioengineered food that is the subject of a consultation with [the] FDA may contain an introduced pesticidal substance . . . [a] PIP that is subject to review by EPA."[162] To date, there are thirty-seven PIPs registered with the EPA because its function is to regulate pesticides.[163]

Roundup Ready crops are engineered to be resistant to Roundup, a Monsanto brand of herbicide.[164] Roundup Ready crops are genetically engineered "to tolerate the herbicide glyphosate, an ingredient in the weed killer Roundup."[165] "[G]lyphosate is the most widely used herbicide in the world by volume [where] it is employed extensively in agriculture . . . ."[166] Glyphosate is considered "to be less toxic and less persistent than traditional herbicides," indicating that it poses less risk for human health.[167] "[R]oundup-Ready crops now account for more than [ninety percent] of the corn and soybeans planted in the United States," as herbicide-tolerance " . . . is the main characteristic that the biotechnology industry has chosen to introduce into plants."[168] Because these crops are tolerant to herbicide, it "enables farmers to use certain herbicides that will kill weeds without harming their crop."[169]

There are numerous controversies around genetically engineered food, such as labeling, safety, regulation, policies, environmental effects, and the role of industrial agriculture.[170] "Many people feel that genetic engineering is the inevitable wave of the future and that we cannot afford to ignore a technology that has such enormous potential benefits."[171]

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[160] *EPA's Regulation of Biotechnology for Use in Pest Management*, EPA, https://www.epa.gov/regulation-biotechnology-under-tsca-and-fifra/epas-regulation-biotechnology-use-pest-management (last updated June 7, 2017).

[161] *Overview of Plant Incorporated Protectants*, EPA, https://www.epa.gov/regulation-biotechnology-under-tsca-and-fifra/overview-plant-incorporated-protectants (last updated Aug. 22, 2017).

[162] *Food from Genetically Engineered Plants*, FDA, https://www.fda.gov/Food/IngredientsPackaging Labeling/GEPlants/ucm2006889.htm (last updated Oct. 17, 2017).

[163] *Current and Previously Registered Section 3 Plant- Incorporated Protectant (PIP) Registrations*, EPA, https://www.epa.gov/ingredients-used-pesticide-products/current-and-previously-registered-section-3-plant-incorporated (last updated July 19, 2017); *EPA's Regulation of Biotechnology for Use in Pest Management*, EPA, https://www.epa.gov/regulation-biotechnology-under-tsca-and-fifra/epas-regulation-biotechnology-use-pest-management (last updated June 7, 2017).

[164] *What are the most common types of GMO?*, *supra* Note 153.

[165] Hsaio, *supra* Note 154.

[166] *Id.*

[167] *Id.*

[168] Philip J. Landrigan & Charles Benbrook, *GMOs, Herbicides, and Public Health*, N ENGL J. MED. 373:693–65 (Aug. 20, 2015), http://www.nejm.org/doi/full/10.1056/NEJMp1505660#t=article.

[169] Hsaio, *supra* Note 154.

[170] A. S. Bawa & K. R. Anilakumar, *Genetically modified foods: safety, risks and public concerns—a review*, J. FOOD SCI. TECHNOL. (Dec. 19, 2012), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3791249/.

[171] *Id.*; *see also* Landrigan & Benbrook, *supra* Note 168.

Tellingly, "[t]he National Academy of Sciences has twice reviewed the safety of GM crops [and it] concluded that [genetically engineered] crops pose no unique hazards to human health."[172] Genetically engineered crops "have the potential to solve many of the world's hunger and malnutrition problems and to help protect and preserve the environment by increasing yield and reducing reliance upon synthetic pesticides and herbicides."[173] There are many benefits associated with genetically engineered crops, such as: increased productivity, growth in inadequate climate conditions, less exposure to harmful pesticides, high nutrients, and longer shelf life.[174]

1. Health

In relation to Roundup Ready crops, which are genetically engineered to tolerate glyphosate, "the International Agency for Research on Cancer ("IARC") has classified glyphosate . . . as a 'probable human carcinogen' . . . ." [175] Additionally, "the World Health Organization ("WHO") recently announced that glyphosate is a probable carcinogen . . . ."[176] Although there are conflicting conclusions, "glyphosate has been linked to cancer in rats and mice and experiments in human cells have shown that exposure to glyphosate can cause DNA damage."[177] This is relevant because "plants may develop resistance to herbicides over time."[178] Such resistance may require higher amounts of glyphosate to have any effect on weed management.[179] Higher amounts of glyphosate sprayed on crops will increase the likelihood of the presence of the chemicals in Roundup Ready crops that are then consumed. This is an ongoing concern that requires continual monitoring by the EPA.[180]

While "pesticides are often the only effective way to control disease organisms, . . . it is essential to strike a balance in pesticide usage."[181] The goal is "to minimize the consequences induced by the toxicity of synthetic pesticides, while maximizing their beneficial effects for crops."[182] Genetically engineered plants "have played a mixed role in this development [by] helping reduce pesticide use in some cases (e.g. with Bt crops) while increas[ing] pesticide use in other cases (e.g. with herbicide-[tolerant] weeds)."[183]

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[172] Landrigan & Benbrook, *supra* Note 168.
[173] Bawa & Anilakumar, *supra* Note 170.
[174] *Id.*
[175] Hsaio, *supra* Note 154; Landrigan & Benbrook, *supra* Note 168.
[176] Hsaio, *supra* Note 154. "Substances and exposure that can lead to cancer are called carcinogens." *Known and Probable Human Carcinogens,* AMERICAN CANCER SOCIETY, https://www.cancer.org/cancer/cancer-causes/general-info/known-and-probable-human-carcinogens.html (last updated November 3, 2016).
[177] *Id.*
[178] *Id.*
[179] *Id.*
[180] *Id.*
[181] *Id.*
[182] *Id.*
[183] *Id.*

In terms of conclusive research, there is evidence presenting claims of GMO safety as well as threats. One of many studies indicates that there is "no relationship between GMOs and mutations; . . . fertility, pregnancy, and offspring are unaffected by GMOs; . . . organ health and function [are] unaffected by GMOs; [and there is] no evidence for gene transfer between GMOs and consumers."[184] The FDA has also stated that, "[genetically engineered] foods [do not] present greater safety concerns than foods developed by traditional plant breeding."[185] Numerous other professional scientific and medical bodies such as the United States National Research Council and the American Medical Association are of the opinion that GMOs are safe.[186]

Another study found that "the consumption of MON810 maize [(genetically engineered corn)] induced several alterations in IELs and blood, which resembled those of the weaning and old mice."[187] The report indicated that further research was necessary but the "results suggest the importance of considering the gut and peripheral immune response . . . in the GMO safety evaluation."[188]

In addition to contradictory research, sources indicate the possibility of corrupt influence with regard to research targeting the health risks of genetically engineered foods. In the early 1990s, Dr. Arpad Pusztai also conducted research, as he was tasked with developing protocols for European Law "as requirements for the safety assessment of any GMOs to be introduced into Europe."[189] In the study, he tested three categories: rats fed genetically engineered potatoes, rats fed natural potatoes, and rats fed natural potatoes sprayed with the same insecticide genetically engineered potatoes were engineered to produce.[190] His study found that only the rats that ate the genetically engineered potatoes got sick.[191] "They had potentially pre-cancerous cell growth in their digestive tract, smaller brains, livers and testicles, partial atrophy of the liver, [and] damaged immune systems . . . ."192 "It was understood that it was the process of genetic engineering itself and the unpredicted side effects that caused this profound damage to every system

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[184] Norris, *supra* Note 138.

[185] Maggie Fox, *There's No Need to Label GMO Plants, FDA Says*, NBC NEWS (Nov. 23, 2015, 1:30 PM), https://www.nbcnews.com/health/health-news/theres-no-need-label-gmo-plants-fda-says-n468301; *see also Consumer Info About Food from Genetically Engineered Plants*, FDA (Oct. 10, 2015), https://www.fda.gov/Food/IngredientsPackagingLabeling/GEPlants/ucm461805.htm.

[186] Van Eenennaam, *supra* Note 133.

[187] Alberto Finamore et al., *Intestinal and Peripheral Immune Response to MON810 Maize Ingestion in Weaning and Old Mice*, J. Agric. Food Chem., 11533, 11536 (2008), http://www.cyberacteurs.org/sans_ogm/fichiers/finamore08-jf802059w.pdf.

[188] *Id.* at 11537.

[189] Null, *supra* Note 35 at 14:32.

[190] *Id.* at 14:35.

[191] *Id.* at 15:34.

[192] *Id.* at 15:38.

and organ study."[193] After his results were known, he was fired and "silenced with threats of lawsuit, his team was dismantled," and his reputation was destroyed.[194]

This highlights the possible concerns with accurate data. The controversy is the result of inconclusive and ignored independent studies and studies conducted by researchers with affiliations to the biotech industry.[195] One source indicated that "research institutions have become increasingly dependent on private funding," where this "close relationship between scientific research and industry has led to concerns over the possible influence of financial conflicts of interests in the design and outcomes of studies investigating human and animal health risks or nutritional value of [genetically engineered] products."[196] It is critical that continuous neutral research be conducted without interference from private funding in order to ensure that accurate research and data is available for consumers.

2. Environment

The environmental effects of genetically engineered crops are described in a Greenpeace brief. It explained that peer-review evidence increasingly demonstrates that genetically engineered crops are: "toxic to harmless non-target species;" "toxic to beneficial insects;" "a threat to soil ecosystems;" a "risk for aquatic life;" and "swapping one pest for another."[197] Studies show that long-term exposure to Bt maize "causes adverse effects on the behavior and survival of the monarch butterfly," and "Bt crops adversely affect beneficial insects important to controlling maize pests, such as green lacewings."[198] It also has been shown that genetically engineered crops "affect the learning performance of honeybees."[199] Multiple studies show that new pests are replacing the old insects that were affected by Bt crops.[200]

Additionally, the quality of the nutrients in our soil "has become a victim of industrial agriculture."[201] One study found:

> [t]he introduction of [genetically engineered] plants into agricultural ecosystems has raised a number of

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[193] *Id.* at 15:55.

[194] Smith, *supra* Note 36.

[195] *Environmental and health impacts of GM crops – the science*, GREENPEACE (Sept. 2011), http://www.greenpeace.org/australia/PageFiles/434214/GM_Fact%20Sheet_Health_%20and_Env_Impacts.pdf [hereinafter *Environmental impacts]*.

[196] Johan Diels et al., *Association of financial or professional conflict of interest to research outcomes on health risks or nutritional assessment studies of genetically modified products*, SCIENCE DIRECT: FOOD POLICY (Dec. 22 2010), http://www2.grist.org/pdf/gmo_conflict.pdf.

[197] The Greenpeace brief "gives an overview of scientific evidence regarding the environmental and health risks of genetically modified crops." *Environmental impacts*, *supra* Note 195.

[198] *See supra* § III, C.; *Environmental impacts*, *supra* Note 195.

[199] *Id.*

[200] *Id.*

[201] Null, *supra* Note 35 at 30:45.

> questions, including the ecological impact of these plants on soil ecosystems. Crop residues are the primary source of carbon in soil, and root exudates govern which organism reside in the rhizosphere. Therefore, any change in the quality of crop residues and rhizosphere inputs could modify the dynamics of the composition and activity of organisms in soil. Insect-resistant Bt crops have the potential to change the microbial dynamics, biodiversity, and essential ecosystem functions in soil, because they usually produce insecticidal Cry proteins through all parts of the plant. It is crucial that risk assessment studies on the commercial use of Bt crops consider the impacts on organisms in the soil.[202]

Additionally, aquatic life is impacted by "leaves or grain from Bt maize [that] enter water courses where the toxin can accumulate in organisms and possibly exert a toxic effect."[203] All of these harms "demonstrate[] the complexity of interactions in the natural environment and underline[] the shortcomings of the current risk assessment."[204]

On the other hand, "the effects of agricultural biotechnology at the farm level . . . from the point of view of the farmer, have received much less attention."[205] The National Research Council conducted a study "of how [genetically engineered] crops have affected U.S. farmers—their incomes, agronomic practices, production decisions, environmental resources, and personal well-being."[206] The report found:

> Generally, [genetically engineered] crops have had fewer adverse effects on the environment than non-[genetically engineered] crops produced conventionally. The use of pesticides with toxicity to [non-target] organisms or with greater persistence in soil and waterways has typically been lower in [genetically engineered] fields than in non-[genetically engineered], nonorganic fields. However, farmer practices may be reducing the utility of some [genetically engineered] traits as pest-management tools and increasing the likelihood of a return to more environmentally damaging practices.[207]

Additionally, "[a] 2011 summary report covering a decade of publicly

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[202] Isik Icoz & Guenther Stotzky, *Fate and Effects of Insect-Resistant Bt Crops in Soil Ecosystems*, 40 SOIL BIOLOGY & BIOCHEMISTRY 559, 559 (2008).

[203] *Environmental impacts*, *supra* Note 195.

[204] *Id.*

[205] NAT'L RES. COUNCIL, *The Impact of Genetically Engineered Crops on Farm Sustainability in the United States*, Nat'l Acad. of Sci. 1 (2010) https://www.nap.edu/read/12804/chapter/1#vii.

[206] *Id.* at 2.

[207] *Id.* at 3.

funded research, 130 research projects, and 500 research groups similarly concluded there is no scientific evidence of higher risks of [genetically engineered] crops to the environment or for food and feed safety."[208]

However, the apparent message suggested by the passage of S. Res. 764 is that genetically engineered foods are safe for consumption and the environment. But a law that essentially conceals GMO information raises concern about the stance that GMOs are in fact safe. If GMOs are safe, why is disclosure even an issue? If GMOs pose no health risks or environmental concerns, then why not disclose the actual contents of the food along with all the other ingredient information on the nutrient fact panel? The forms of disclosure truly convey the message that food manufacturers have something to hide or are themselves unsure of the risks of GMOs. Regardless, this GMO labeling law takes the inquiry of safety out of the public and scientific debate, despite indisputable facts that question health and environmental risks.

3. Corporate Influence

In Chakrabarty, the Court addressed the highly technical and scientific process of patenting living organisms and stated, "[the] process involves the balancing of competing values and interests, which in our democratic system is the business of elected representatives."[209] This process has become the business of our elected representatives. Tellingly, "[t]he total amount spent by labeling opponents is close to 400 million dollars."[210] Corporations spent "400 million dollars in order to prevent the people of our country [from] knowing what is in the food that they eat."[211] Companies like the Grocery Manufacturers Association and Monsanto spent millions in 2015 lobbying Congress in a successful attempt to prevent an on-the-package GMO label.[212]

However, food manufacturers do have an interest in protecting their brands from unwarranted impressions that their foods are not safe or inferior because the products are produced with genetic engineering.[213] This interest is supported by the belief that GMOs are safe.[214] It is also believed that placing a GMO label on the package will provide wrong or misleading information to consumers.[215] These reasons would support lobbying efforts

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[208] Van Eenennaam, *supra* Note 133.

[209] Diamond v. Chakrabarty, 447 U.S. 303, 317 (1980) (emphasis added).

[210] Sanders, *supra* Note 92, at 4:33.

[211] *Id.* at 4:42.

[212] *Id.* at 3:30 and 4:02.

[213] Andrew Kimbrell and Nina Federoff, *Should Companies Be Required to Label Genetically Modified Foods?*, WALL ST. J., (July 12, 2015, 11:10 PM), https://www.wsj.com/articles/should-companies-be-required-to-label-genetically-modified-foods-1436757040.

[214] *Id.*; *Consumer Info About Food from Genetically Engineered Plants*, FDA (Oct. 10, 2015), https://www.fda.gov/Food/IngredientsPackagingLabeling/GEPlants/ucm461805.htm.

[215] Stephanie Strom, *F.D.A. Takes Issue With the Term 'Non-G.M.O.'*, NY TIMES, (Nov. 20, 2015), https://www.nytimes.com/2015/11/21/business/fda-takes-issue-with-the-term-non-gmo.html?_r=0.

in opposition of a mandatory GMO label or a label that does not require actual GMO language on the package.[216]

Most notably, "[n]early [ninety] percent of Americans have called for [a] clear, simple, direct labeling of foods that have been either genetically engineered or modified. They support this very simple concept that we have a right to know what is in the food we eat . . .;" yet we have a law that prohibits transparency and disclosure is disguised in the form a QR code or a telephone number.[217] "[T]his is just another shameful example of how big money interests are using their influence to enact policies that are contrary to what the vast majority of the American people want and what they support."[218]

"The strength of the agribusiness lobby in convincing the United States Congress not to endorse any proposal in or outside the United States with respect to reform of food aid governance has been formidable."[219] Additionally, "[t]he economic and strategic potential of biotechnology places firms in a strong position to assert their preferences regarding the scope of regulations, the speed of process, and the nature of the risks they address." This "power translates into high levels of interaction with governments through active consultations and membership on committees."

Awareness of corporate influence is critical to understanding the force behind S. Res. 764. Corporate interests could possibly be the single most important factor obstructing the proper labeling of genetically engineered food.[220] The significant lobbying efforts that go against the express wishes of the American people has to end. Regulations and policing in this area should be addressed, otherwise, our constitutional democracy will be bought by industry interests and laws such as S. Res. 764 will continue to be enacted.[221]

IV. CONCLUSION

The GMO issue has created an odd "series of alliances on both sides of the debate because it cuts across so many various concerns: states' rights,

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[216] Dan Charles, *Congress Just Passed A GMO Labeling Bill. Nobody's Super Happy About It*, NPR (July 14, 2016, 5:34 PM), http://www.npr.org/sections/thesalt/2016/07/14/486060866/congress-just-passed-a-gmo-labeling-bill-nobodys-super-happy-about-it.

[217] 162 Cong. Rec. H4937 (daily ed. July 14, 2016) (statement of Rep. Gabbard), https://www.congress.gov/crec/2016/07/14/CREC-2016-07-14.pdf.

[218] Sanders, *supra* Note 92, at 2:55.

[219] CORPORATE POWER IN GLOBAL AGRIFOOD GOVERNANCE 139 (Jennifer Clapp & Doris Fuchs eds., The MIT Press 2009).

[220] *Who are the companies fighting our right to know?*, JUST LABEL IT, http://www.justlabelit.org/right-to-know-center/labeling-opponents/ (last visited Oct. 21, 2017); *New Plant Varieties*, *supra* Note 30.

[221] "A government that enforces recognized limits on those who govern and allows the voice of the people to be heard through free, fair, and relatively frequent elections." *Chapter 1: Constitutional Democracy*, AP U.S. Gov't, https://www.apstudynotes.org/us-government/vocabulary/chapter-1-constitutional-democracy/ (last visited Oct. 21, 2017).

food safety, scientific research, business interests, food costs," and others.[222] As this Comment illustrates: a preemptive federal requirement should incorporate state interests; better alternative standards are readily available to replace S. Res. 764; scientific research links health and environmental concerns with the consumption and placement of genetically engineered crops in nature; and corporate interests should not dictate whether and how products are labeled.

"For every complex problem, there is a solution that is concise, clear, simple, and wrong."[223] S. Res. 764 is the wrong solution. As this Comment illustrates, an on-the-package GMO label and the ideal that Americans should have the unimpeded right to know what is in the food they consume, is the solution that is concise, clear, and simple.

Both CP 121 and S. 262 resolve the issues created by S. Res. 764 because of the simple on-the-package GMO label requirement where the focal point of each is to provide accessible information. Thus, the proposed solution is either a version of CP 121, the federal proposal of S. 2621, or a combination of the two.

An on-the-package label will promote educated purchasing decisions by supporting the basic premise of information sharing. In acquiring information about GMOs, the consumers will then be able to decide for themselves whether consumption and/or the selection of genetically engineered seeds for planting is in their best interests. Those who decide that GMOs are safe will continue to purchase the product on that basis. Those who decide that GMOs are not safe should be able to read the package and obtain information about its actual ingredients. Those who are concerned about the safety of GMOs should receive more consideration than S. Res. 764 requires. As stated by Representative Jim McGovern during his opposition, "[t]his debate is not about the science regarding GMOs . . . I still believe that every consumer is entitled to know whether the food they buy contains GMOs. That is what this debate is about. It is about transparency."[224]

The consumption of GMOs is not the only concern; the environment and corporate influence are also at issue. Individuals can enact measures in their lives to avoid the possible environmental impact by deciding to plant non-GMO seeds and work with local farmers whose primary interest is not the mass production of monocrops, but the belief that food quality and not money, is critical to health and sustainability. Farmers should not be forced

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[222] P.A. Deacon, *GMO Labeling Debate Shows Tenth Amendment's Relevance for Today*, Tenth Amend. Ctr. (Aug. 18, 2016), http://tenthamendmentcenter.com/2016/08/18/gmo-labeling-debate-shows-tenth-amendments-relevance-for-today/.

[223] *H.L. Mencken Quotes*, BrainyQuote, jhttps://www.brainyquote.com/quotes/quotes/h/hlmencke129796.html (last visited Oct. 21, 2017).

[224] 162 Cong. Rec. H4932-02, H4937 (daily ed. July 14, 2016) (statement of Rep. Gabbard), https://www.congress.gov/crec/2016/07/14/CREC-2016-07-14.pdf.

into business with biotechnology companies. Thorough regulation of largescale farming and better incentives for small, local, community farms should be of primary concern in the GMO debate. This measure will switch the focus from industrialized GMO monocrop farming to a food culture that revolves around quality products. It will also help to keep corporate interests out of Congress by building a system that is centered on food quality and not quantity.

The idea that Americans should have the unimpeded right to know what is in their food was pioneered by CP 121. It was the direct result of Vermont's citizens expressing their desire to know what is in their food. This desired right should not be infringed upon by corporate interests. By requiring transparency with an on-the-package GMO label, a high standard of accountability and dissemination of information becomes the best practice of food manufacturers. Educating, not concealing, becomes the standard by which all product packaging is evaluated. Full disclosure should be the custom that Americans should have the right to enjoy, especially in something as important as the food they consume and the plants they grow.