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STICKER SHOCK: STANDARDS AND DISPUTES OF GMO FOOD LABELING

INTRODUCTION

On November 19, 2015, the Food and Drug Administration (FDA) issued a press release approving an application for a breed of salmon as safe to eat.¹ Rather than encouraging the public to grab forks and lemons, however, such a seemingly innocuous decision instead encouraged some to grab pitchforks and torches.² The press release served only to dump gasoline on a debate that has now blazed for decades.³

The issue at hand was that this salmon was a genetically modified fish with the trade name AquAdvantage.⁴ The experimental salmon was produced in a lab from a genetic chimera and now possessed the rapid maturation growth factors of eels that allow for year-round continuous growth.⁵ Supporters of the action hailed the FDA for helping in the fight on hunger by allowing for a quicker turnaround of fish crop.⁶ Opponents, in contrast, criticized the decision as legitimizing and unleashing a “Frankenfish” monstrosity that could have an unknown effect on millions of people.⁷

The “Frankenfish” issue is just one of the more recent developments in a debate that was sparked when mankind first unlocked the secrets of the genomic map.⁸ This debate regarding the potential of genetically modified organisms (GMOs) and their application to genetically engineered foods has now gone on for decades.⁹ As more consumer products that are the complete or partial result of GMO processes are introduced into markets, the controversy

¹ Press Release, U.S. Food & Drug Admin., FDA Takes Several Actions Involving Genetically Engineered Plants and Animals For Food (Nov. 19, 2015), http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm473249.htm?source=govdelivery&utm_medium=email&utm_source=govdelivery [hereinafter FDA Press Release (2015)].

² See Debra Goldschmidt, *Genetically Engineered ‘Frankenfish’ Salmon Wins FDA Approval*, CNN (Nov. 20, 2015, 2:25 PM), <http://www.cnn.com/2015/11/19/health/genetically-engineered-salmon/>.

³ See *id.*; DAVID E. NEWTON, *GMO FOOD: A REFERENCE HANDBOOK* 49–51 (2014).

⁴ Goldschmidt, *supra* note 2.

⁵ *Id.*

⁶ See *id.*

⁷ *Id.*

⁸ See *id.*; NEWTON, *supra* note 3, at 49–51.

⁹ See Goldschmidt, *supra* note 2; NEWTON, *supra* note 3, at 50.

over GMO foods will continue to intensify. One of the primary areas of contention has been legislating how, if at all, to label these foods.¹⁰ This Essay will focus on some of the legal aspects of the debate that stem from the scientific concerns about GMOs and how these concerns affect the regulation of labeling such GMO products by the United States and the European Union.

I. GMO DEBATE IN A GENETICALLY ALTERED NUTSHELL

The arguments favoring the creation of GMO foods are based on the potential benefits of GMO foods both in the agricultural sphere—including raising the quantity of the foods produced and improving the quality of the resulting products—and to the health of humans and the environment.¹¹ Genetic engineering can edit genes from different strains and species of a specific plant to create one that possesses the traits best suited for a particular environment or allow more types and varieties of agricultural products to be grown in a shorter amount of time than what can be produced during the same generational turnarounds of traditional crossbreeding programs.¹² Additionally, traits such as product size or amount can be fine-tuned to produce larger and more plentiful crops per acre.¹³ Improvements to environment and human health granted via genetically engineered foods are possible through several processes.¹⁴ By manipulating crops to last longer and be more durable, GMOs would allow for longer storage and shipping durations.¹⁵ With the changes

¹⁰ See Julie M. Muller, *Naturally Misleading: FDA's Unwillingness to Define "Natural" and the Quest for GMO Transparency Through State Mandatory Labeling Initiatives*, 48 SUFFOLK U.L. REV. 511, 512 (2005).

¹¹ See *id.* at 515; NEWTON, *supra* note 3.

¹² *Id.*

¹³ See Muller, *supra* note 10, at 516; see generally *Genuity Roundup Ready 2 Yield Soybeans*, GENUITY.COM, <https://www.genuity.com/soybeans/Pages/Roundup-Ready-2-Yield.aspx> (last visited Mar. 2, 2017) (Genuity Roundup Ready 2 Yield Soybeans produce more beans per pod). Not only can crops be created to be resistant to pests—either through introduction of natural pesticide proteins against the pest or by imbuing a resistance to pesticides used by growers—but a similar resistance can also be granted to plants for additional environmental hazards beyond the predations of pests, such as drought and disease. See Muller, *supra* note 10, at 515.

¹⁴ NEWTON, *supra* note 3, at 85. Biofortification is the process of altering a plant to improve its original nutritional value or introduce a new nutritional value into the plant, or to improve plant durability and lifespan. *Id.* A popular example of this is “Golden Rice,” which has been fortified with Vitamin A in order to supplement dietary needs and combat global malnourishment. Muller, *supra* note 10, at 516 n.39 (citing Sophia Kolehmainen, *Precaution Before Profits: An Overview of Issues in Genetically Engineered Food and Crops*, 20 VA. ENVTL. L.J. 267, 284–87 (2001); Gregory N. Mendel, *Gaps, Inexperience, Inconsistencies, and Overlap: Crisis in the Regulation of Genetically Modified Plants and Animals*, 45 WM. & MARY L. REV. 2167, 2180–90 (2004).

¹⁵ NEWTON, *supra* note 3, at 85.

made possible by GMOs, there would also be an increase in food availability and the expanded ability to grow food in more challenging climates. It is expected that food prices would accordingly fall, thereby granting greater access to healthier foods worldwide.¹⁶ Genetically engineered plants provide benefits to the environment by reducing the vulnerability of crops and subsequently lessening the impact on the agriculture.¹⁷

While no substantial dangers of genetically engineered foods have been scientifically proven over the years, there is nonetheless no lack of enthusiasm by opponents in the creation of laundry lists of doomsday scenarios.¹⁸ These “What If?” questions are focused on the potential impact of genetically engineered plants on human health and the environment.¹⁹ The biggest argument against genetically engineered crops is that the opponents’ lack of a viable foundation should nonetheless be argument enough.²⁰ In other words, the fact that “scientists do not yet clearly know what the health effects might be” should be enough warning, opponents say, to merit abstaining from the use of genetically engineered crops until testing can definitively detect any changes or damage that GMOs might cause to consumers over the long term.²¹ Ecologically, while the benefits of genetically engineered plants primarily stem from their lack of demands and consequences on the environment, opponents depict the likely downside of these plants as potentially catastrophic.²² Additional risks are highlighted by heightened concerns about crops—especially strictly regulated “organic” product fields—becoming contaminated by pollen and seeds blowing over from neighboring GMO fields.²³

¹⁶ See *id.*; Muller, *supra* note 10.

¹⁷ NEWTON, *supra* note 3, at 88–90.

¹⁸ See *id.*; Muller, *supra* note 10, at 516.

¹⁹ NEWTON, *supra* note 3, at 88.

²⁰ *Id.* at 92.

²¹ *Id.* Muller, *supra* note 10, at 516. Regardless of overwhelming support for genetic engineering found in academic and international scientific communities, a few researchers have tried to arouse fears of potential, currently undetectable harms and applied this uncertainty of risk by speculating about a number of possible health effects, such as the potential for transference of growth factors from one organism to a consumer and effects to the consuming populace. NEWTON, *supra* note 3, at 88–98.

²² See NEWTON, *supra* note 3, at 85; Muller, *supra* note 10, at 517 (highlighting concerns about the resulting lower genetic diversity and forced selective pressures giving rise to massive strain-specific blights and “Super Bugs/Weeds”).

²³ See Muller, *supra* note 10, at 517. This contamination process, called horizontal gene flow, is when the genetic material of engineered crops becomes intermingled with traditional plant life, creating a new hybrid plant. NEWTON, *supra* note 3, at 94.

II. U.S. GMO LABELING BACKGROUND AND LEGISLATIVE REGIMES

A. *OMG, GMO! FDA: "AOK!"*

The importance of the controversy surrounding GMO labeling is not lost on the FDA, given its history with food labeling.²⁴ In 1992, the FDA provided labeling guidelines and adopted policies regarding foods being developed from new plant varieties, including those of GMO origin.²⁵ These guidelines did not create separate requirements for GMO foods and instead placed them under the same scrutiny and regulation as other foods without establishing any distinctions between "natural" foods and those derived from GMOs.²⁶

The press release approving the AquAdvantage application reinforced the FDA's position that it has the authority to regulate GMO animal-based foods, as the recombinant DNA construct used to introduce genetic materials into animals meets the FDA's definition of a drug.²⁷ In its announcement, the FDA "deemed [the AquAdvantage] safe to eat, determined that the claim of faster growth rate is true and that there is no biological difference between [AquAdvantage] and nongenetically engineered salmon."²⁸ The most current guidance provided by the FDA was a final draft guidance that was released in conjunction with the AquAdvantage approval in 2015 and continues the course of voluntary labeling procedures.²⁹ Relying on studies that showed there was not a biological difference in the salmon from its base template species, the

²⁴ John P. Swann, *FDA's Origin*, U.S. FOOD & DRUG ADMIN., <http://www.fda.gov/aboutfda/whatwedo/history/origin/ucm124403.htm> (last updated June 23, 2014). In 1906, the FDA was reinvented in response to wild irregularities in the regulation of food and drugs that were previously performed at the state level and it was granted regulatory powers to also police the mislabeling and adulteration of food and drugs. *Id.*

²⁵ U.S. FOOD & DRUG ADMIN., DRAFT GUIDANCE FOR INDUSTRY: VOLUNTARY LABELING INDICATING WHETHER FOODS HAVE OR HAVE NOT BEEN DEVELOPED USING BIOENGINEERING (2001) <http://www.fda.gov/food/guidanceregulation/guidancedocumentsregulatoryinformation/ucm059098.htm>.

²⁶ *Id.* The FDA based this decision in part on its continued position that GMO foods did not differ from food produced by conventional means. Notice: Foods Derived From New Plant Varieties, 57 Fed. Reg. 8663 (Food & Drug Admin. May 29, 1992) ("The agency is not aware of any information showing that foods derived by these new methods differ from other foods in any meaningful or uniform way, or that . . . foods developed by the new techniques present any different or greater safety concern than foods developed by traditional plant breeding.").

²⁷ FDA Press Release (2015), *supra* note 1.

²⁸ Goldschmidt, *supra* note 2.

²⁹ U.S. FOOD & DRUG ADMIN., GUIDANCE FOR INDUSTRY: VOLUNTARY LABELING INDICATING WHETHER FOODS HAVE OR HAVE NOT BEEN DERIVED FROM GENETICALLY ENGINEERED PLANTS (2016), <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ucm059098.htm>.

FDA did not require AquAdvantage to be identified with a genetically modified label or any other distinguishing marker from other salmon.³⁰

1. *Local Efforts—Threadbare Patchwork of State Laws*

Connecticut became the first state to enact statutes requiring specific labeling for GMO foods in 2013.³¹ While the law officially went into effect on July 1, 2015, it does not actually trigger until four other states, at least one of which must border Connecticut, adopt similar labeling laws with the aggregate population of these northeastern states adopting such laws exceeding twenty million people.³² Shortly thereafter, Maine and Vermont followed Connecticut's example by passing statutes also requiring GMO labeling.³³ Other states have also attempted to introduce ballot initiatives and legislation calling for mandatory GMO food labeling.³⁴ The dissimilar wording, inconsistent exceptions, and conflicting definitions that these laws are comprised of have generated concerns about the creation of "a state-by-state patchwork of laws that lead to misinformation and confusion for consumers as well as costly disruptions to the food supply chain."³⁵

2. *Federal Initiative—Safe and Accurate Food Labeling Act of 2015*

In an effort to avoid a repeat of the amalgam of inconsistent regulations that led to the regulatory evolution of the FDA in the first place,³⁶ members of the House of Representatives introduced H.R. 1599, the Safe and Accurate Food Labeling Act of 2015 (SAFLA) in March 2015.³⁷ As part of its report on

³⁰ Goldschmidt, *supra* note 2. Satisfied with the scientific concerns, the FDA still had to allay environmental concerns before granting approval. See FDA Press Release (2015), *supra* note 1.

³¹ See Connecticut Food, Drug and Cosmetic Act, CONN. GEN. STAT. §§ 21a-92–102 (2016).

³² *Id.* § 21a-92c.

³³ See ME. REV. STAT. ANN. tit. 22, §§ 2591 (2014); 9 V.S.A. §§ 3041–48 (2014). While mandating a similar conspicuous disclosure of GMO foods, the Maine statutes differ from the Connecticut ones in two important ways. Compare tit. 22, §§ 2591 (disqualifying any food subject to the Maine definition of "Genetically Engineered" from being able to brand itself as "natural" and requiring five other states to adopt similar laws before the statute will go into effect.), with Connecticut Food, Drug and Cosmetic Act, CONN. GEN. STAT. §§ 21a-92c (2016) (defining "natural foods" and imposing geographic conditions).

³⁴ H.R. REP. NO. 114-208, pt. 1, at 11 (2015). Oregon, Colorado, Washington, and California have all submitted proposals and have seen them voted down. *Id.*

³⁵ *Id.*

³⁶ See generally Swann, *supra* note 24.

³⁷ H.R. REP. NO. 114-208, pt. 1, at 12 (2015). The purpose of the Act was to "ensure national uniformity regarding labeling of foods derived from genetically engineered plants by preventing a patchwork of conflicting State or local labeling laws which inherently interfere with interstate and foreign commerce." *Id.* at 11.

SAFLA, the House Committee on Agriculture recognized the importance and need for agricultural biotechnology and determined that it was being threatened by the efforts of an “ever more vocal minority” that was influencing local, state, and federal lawmakers through the use of doubts and “misinformation regarding the safety and wise use of genetically engineered” foods.³⁸ The House further recognized the consequences that would be inflicted on suppliers under the onus of individualized state labeling laws.³⁹

The committee supported SAFLA in its report in part for its intent to create a “consumer-friendly, science-based, uniform food-labeling framework.”⁴⁰ To create that framework, a preemption clause prohibits states from establishing standards or authorities that differ from the Act.⁴¹ SAFLA would also preempt states from regulating “natural” foods, and while it does not directly define “natural,” it instead allows for the FDA to define the term in any regulations it promulgates to enforce the Act.⁴² While the House passed SAFLA on July 23, 2015, it stalled awaiting further Senate review and approval.⁴³ While it is unlikely to be revived in the future, many of the considerations and reasoning behind SAFLA should hopefully transfer to its successor.

3. *U.S. Legal Battles of GMO Labeling*

Whereas before, GMO labeling was fought on an item-by-item basis, with the introduction of both potential state and national standards for all GMO labeling, the debate has intensified as the legislation became all-inclusively widespread in its targets.⁴⁴ Previously, the parties to these legal challenges of attempted mandatory standards were members of the specific industry the laws targeted.⁴⁵ Now, with the onset of new comprehensive legislation, the parties

³⁸ H.R. REP. NO. 114-208, pt. 1, at 11. The Committee took the state legislations to task for their claimed purpose of satisfying consumer curiosity in light of the numerous exceptions within the statutes, which seem to only confound it. *Id.*

³⁹ *Id.* at 11–12 (“[S]tate labeling laws would lead to a \$500 increase in grocery prices for the average family of four.”).

⁴⁰ *Id.* at 12.

⁴¹ Safe and Accurate Food Labeling Act of 2015, H.R. 1599, 114th Cong. § 203 (2015).

⁴² *Id.* § 301.

⁴³ *H.R. 1599 – Safe and Accurate Food Labeling Act of 2015*, CONGRESS.GOV <https://www.congress.gov/bill/114th-congress/house-bill/1599/actions> (last visited Apr. 1, 2017).

⁴⁴ See generally *Int’l Dairy Foods Ass’n v. Amestoy*, 92 F.3d 67 (2d Cir. 1996); *Am. Meat Inst. v. U.S. Dep’t of Agric.*, 760 F.3d 18 (D.C. Cir. 2014); *Grocery Mfrs. Ass’n v. Sorrell*, 102 F.Supp.3d 583 (D. Vt. 2015) (granting in part and denying in part motion to dismiss First Amendment challenge to law regulating marketing and labeling of food produced with genetically-engineered ingredients), *appeal docketed*, No. 15-1504 (2d Cir. May 6, 2015).

⁴⁵ See *Am. Meat Inst.*, 760 F.3d 18; see also *Amestoy*, 92 F.3d 67.

involved in the challenges are larger companies that are diversified into multiple food products and operations.⁴⁶

Fittingly, Vermont has become the legal arena for opponents of GMO food in the marketplace.⁴⁷ In *International Dairy Foods Association v. Amestoy*, the Second Circuit addressed the issue of GMO labels for milk in Vermont, applying the first of two tests that would become the potential bar upon which to balance the various burdens and needs of speech and government purpose.⁴⁸ Elsewhere, the second test was applied by the D.C. Circuit in *American Meat Institute v. USDA*, regarding the labeling of beef with information about its country of origin.⁴⁹ The fate of the individual regulations and the national standards will more than likely fall on which of the two tests the courts ultimately choose to apply to the legislation.⁵⁰

a. *Got Milk?*—*International Dairy Foods Association v. Amestoy*

In *Amestoy*, numerous dairy manufacturers challenged the constitutionality of a Vermont statute created in response to the FDA approving recombinant Bovine Somatotropin (rBST), a genetically modified naturally occurring hormone that increases milk production, for use on dairy cows.⁵¹ Despite the fact that the FDA studies determined that milk from conventional cows was not significantly different from that of cows treated with rBST, the Vermont statute sought to require displays and packages of dairy products from, or potentially from, rBST cows to be labeled with warning signs to “help consumers make informed shopping decisions.”⁵²

In order to determine if a government restriction on speech was permissible with respect to the First Amendment, the court turned to the four-part analysis given by the Supreme Court in *Central Hudson Gas & Electric Corporation v. Public Service Commission*.⁵³ The second part of the *Central Hudson* test was whether the government’s interest is substantial. This was the most important factor of the test for the *Amestoy* court when it held that there was not a

⁴⁶ See, e.g., *Sorrell*, 102 F.Supp.3d 583.

⁴⁷ E.g., *Amestoy*, 92 F.3d 67; *Sorrell*, 102 F.Supp.3d 583.

⁴⁸ *Amestoy*, 92 F.3d at 71.

⁴⁹ *Am. Meat Inst.*, 760 F.3d at 18.

⁵⁰ See Charlotte Davis, *Article: A Right to Know About GMOS: What American Meat Institute v. USDA Means for Vermont’s Food Labeling Law*, 16 N.C. J.L. & TECH. 32, 33 (2015).

⁵¹ *Amestoy*, 92 F.3d at 69.

⁵² *Id.* at 69–70.

⁵³ *Id.* at 72.

substantial interest: “[Vermont] has not adopted the concerns of the consumers; it has only adopted that the consumers are concerned. Unfortunately, mere consumer concern is not, in itself, a substantial interest.”⁵⁴ As nothing in the court’s history demonstrated any case “in which consumer interest alone was sufficient to justify requiring a product’s manufacturers to publish the functional equivalent of a warning about a production method that has no discernable impact on a final product,” the court, albeit reluctantly, held that “consumer curiosity alone is not a strong enough state interest to sustain the compulsion of even an accurate, factual statement, in a commercial context.”⁵⁵ The requirement of a substantial government interest that the Second Circuit adopted is a much stricter standard than the one used in the second test by the D.C. circuit in a later case.⁵⁶

b. Beef: It’s What’s for Dinner—American Meat Institute v. USDA

In *American Meat Institute v. USDA*, trade association groups representing all links of the meat production chain brought suit to challenge a 2013 rule introduced by the USDA amending previous labeling requirements.⁵⁷ Where the former rule only required the identification of each country where meat had been handled under the catch-all “Product of,” the newer rule would require each country to be named separately by the particular production step (“Born in,” “Raised in,” and “Slaughtered in”).⁵⁸ The constitutional challenge brought by the trade organizations was that the rule violated their First Amendment rights by requiring separate country-of-origin disclosure.⁵⁹

In deterring the limits on governmental compulsion of speech, this time the court looked to *Zauderer v. Office of Disciplinary Counsel of Supreme Court*,

⁵⁴ *Amestoy*, 92 F.3d at 73 n.1 (quoting *Int’l Dairy Foods Ass’n v. Amestoy*, 898 F. Supp. 246, 252 (D. Vt. 1995) (emphasis added)).

⁵⁵ *Id.* at 73–74. The Vermont labeling statute was found to have violated the right to commercial free speech as consumer curiosity was held not to be a compelling enough state interest to require rBST-produced milk to have different labels. *Id.* The *Amestoy* court agreed with the district court that the lack of any discernible health risks between conventional and rBST cow milk weakened any claims of real harm necessary to constitute a substantial state interest. *Id.* at 73 (“Because bovine somatotropin (“BST”) appears naturally in cows, and because there are no BST receptors in a cow’s mammary glands, only trace amounts of BST can be detected in milk, whether the cows received the supplement. Moreover, it is undisputed that neither consumers nor scientists can distinguish rBST-derived milk from milk produced by an untreated cow.”) (internal citations omitted).

⁵⁶ *Davis*, *supra* note 50, at 45.

⁵⁷ *Am. Meat Inst. v. U.S. Dep’t of Agric.*, 760 F.3d 18 (D.C. Cir. 2014).

⁵⁸ *Id.* at 21. (“[Meat] which formerly could have been labeled ‘Product of the United States and Canada,’ would now have to be labeled ‘Born in Canada, Raised and Slaughtered in the United States.’”)

⁵⁹ *Id.*

where the Supreme Court had revisited the issues from *Central Hudson*.⁶⁰ The Court held “that an advertiser’s rights are *reasonably related* to the State’s interest in preventing deception of consumers” and that advertisers’ rights are adequately protected so long as mandatory disclosures are (1) reasonably related to a (2) sufficiently important state interest in preventing consumer deception.⁶¹ Accordingly, the D.C. Circuit Court upheld the rule compelling beef origin labeling on the grounds that the state’s interest went beyond mere consumer curiosity and there was a reasonable relationship between the statute and its goals.⁶²

Currently, the courts seem divided as to which of the two tests should apply when it comes to restricting/compelling speech in the form of GMO labels.⁶³ That divide will likely be addressed soon by the 2nd Circuit court in *Grocery Manufacturers Association v. Sorrell*, as the court will hear another Vermont case centered on the First Amendment considerations of mandating label information.⁶⁴

III. EUROPEAN CUISINE

The attempted GMO-labeling efforts of Vermont, Maine, and others in the United States mirror many of the restrictions and demands of the comprehensive regime of the European Union (EU).⁶⁵ Not only does the EU

⁶⁰ *Id.* On its surface, *Zauderer* created a slightly different test for compelled commercial speech and disclosures recognizing “that unjustified or unduly burdensome disclosure requirements might offend the First Amendment by chilling protected commercial speech.” *Zauderer v. Office of Disciplinary Counsel of Supreme Court*, 471 U.S. 626, 651 (1985).

⁶¹ *Zauderer*, 471 U.S. at 651 (emphasis added).

⁶² *Id.* See *Am. Meat Inst.*, 760 F.3d at 29 (Rodgers, J., concurring) (“When a State regulates commercial messages to protect consumers from [deception] or requires the disclosure of *beneficial* consumer information, the purpose of its regulation is consistent with the reasons for according constitutional protection to commercial speech and therefore justifies less than strict review.”) (internal quotations omitted) (citations omitted).

⁶³ Compare *Am. Meat Inst.*, 760 F.3d 18 (D.C. Cir. 2014), with *Int’l Dairy Foods Ass’n v. Amestoy*, 92 F.3d 67 (2d Cir. 1996). The requirement of a substantial government interest that the Second Circuit adopted is a much stricter standard than the one used in the second test by the D.C. circuit in *Amestoy*.

⁶⁴ *Grocery Mfrs. Ass’n v. Sorrell*, 102 F.Supp.3d 583 (D. Vt. 2015) (granting in part and denying in part motion to dismiss First Amendment challenge to law regulating marketing and labeling of food produced with genetically-engineered ingredients), *appeal docketed*, No. 15-1504 (2d Cir. May 6, 2015).

⁶⁵ See 9 V.S.A. §§ 3041–48 (2014); ME. REV. STAT. ANN. tit. 22, §§ 2591–96 (2015); Commission Regulation 1829/2003 of Sept. 22, 2003, Genetically Modified Food and Feed, 2003 O.J. (L 268) 1, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:121154#amendingact> [hereinafter Regulation (EC) No. 1829/2003], and Commission Regulation 1830/2003 of Sept. 22, 2003, Concerning the Traceability of Genetically Modified Organisms and the Traceability of Food and Feed Products Produced From Genetically

require all GMO-derived goods (not just food for consumption) to be conspicuously labeled, it also requires all operators to maintain records tracing the origin and travel of the product and to strongly adhere to standards of coexistence with conventional and organic agriculture.⁶⁶ Where individual states in the United States seek to have stricter controls in the face of no federal regulations, the EU, by contrast, has only a single set of strict controls put in place by the European Parliament, and does not have to face the challenge of trying to simultaneously enforce conflicting laws passed by individual Member States.⁶⁷ In 2001, worried about the possible effects the deliberate release of GMOs into the environment and markets might have, the EU began to establish regulations on how GMOs should be handled by its Member States.⁶⁸

A. Is a Pound of Precaution and Prevention Worth an Ounce of Cure?

The underlying basis for the EU's approach to GMOs stems from the environmental philosophy of international law termed the "Precautionary Principle."⁶⁹ One of several principles laid out in the Rio Declaration on Environment and Development, the Precautionary Principle represented the forward-looking nature of ecological preservation while remaining cognizant of potential impacts of currently under-researched scientific concerns.⁷⁰ Citing the potential for a reduction in biodiversity that could result from the homogenization of few specific GMO crops, the EU has applied this

Modified Organisms and Amending Directive 2001/18/EC, 2003 O.J. (L 268) 24, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:121170> [hereinafter Regulation (EC) No 1830/2003].

⁶⁶ NAVEEN THAYYIL, BIOTECHNOLOGY REGULATION AND GMOS LAW, TECHNOLOGY AND PUBLIC CONTESTATIONS IN EUROPE 52 (2014).

⁶⁷ See 9 V.S.A. §§ 3041–48 (2014); ME. REV. STAT. ANN. tit. 22, §§ 2591–96 (2015); Regulation (EC) No 1829/2003, *supra* note 65; Regulation (EC) No 1830/2003, *supra* note 65.

⁶⁸ See Directive 2001/18/EC of the European Parliament and the Council of 12 March 2001 on the Deliberate Release into the Environment of Genetically Modified Organisms and Repealing Council Directive 90/220/EC O.J. (L106) 1, http://eur-lex.europa.eu/resource.html?uri=cellar:303dd4fa-07a8-4d20-86a8-0baaf0518d22.0004.02/DOC_1&format=PDF.

⁶⁹ *Id.* The principle was codified during an international conference in Rio de Janeiro in June 1992 in which attendees explored various topics on mineral resources, developing nations, and environmental impacts. United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc A/Conf.151/5/Rev. 1, 31 ILM 876, 879 (June 13, 1992), <http://www.jus.uio.no/lm/environmental.development.rio.declaration.1992/portrait.a4.pdf>.

⁷⁰ U.N. Conference on Environment and Development, *supra* note 69 ("In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.").

Precautionary Principle to GMOs, seeing them as a potential threat, and has taken a risk-assessment approach.⁷¹

B. Long Boat Ride from DOA to AOK: EU GMO Restrictions and Regulations

In 2001, the European Union expanded its interpretation of the Precautionary Principle beyond its conservationist roots and created a regime actively hostile to the idea of GMOs.⁷² Then, in 2003, when the EU adopted strict standards regarding GMO food regulation in all of its Member States, the moratorium on GMOs was lifted, but just barely, as it added a traceability requirement detailing the path of GMO products throughout the entire production chain.⁷³

While the EU has prevented Member States from imposing even stricter controls, or even outright GMO bans, it has stifled its capacity for growth and commerce by limiting the amount and type of GMO crops that can be grown. It is unlikely that the EU will change its strict stance in the near future, despite the possibility that improved agriculture might just prevent the ecological disasters the precautionary approach is supposed to guard against. Because of such widespread fear and misunderstanding, environmentally challenged regions that would benefit most from enhanced GMO agricultural heartiness and quantity are prevented from reaping better harvests. Consider how better prepared the EU would have been for the current refugee crisis if its food supply had been bolstered by GMO crops.⁷⁴ Because it allowed true precaution to be supplanted by paranoia many years ago, the EU has now found itself woefully underprepared for addressing its peoples' needs.

⁷¹ David A. Wirth, *The World Trade Organization Dispute Over Genetically Modified Organisms: The Precautionary Meets International Trade Law*, 37 VT. L. REV. 1153, 1165 (2013).

⁷² Directive 2001/18/EC, *supra* note 68.

⁷³ See Regulation (EC) No 1829/2003, *supra* note 65; Regulation (EC) No 1830/2003, *supra* note 65. The stricter Novel Food Regulation was replaced with a traceability component. Brian Schwartz, *WTO and GMOs: Analyzing the European Community's Recent Regulations Covering the Labelling of Genetically Modified Organisms*, 25 MICH. J. INT'L L. 771, 782 (2004); THAYYIL, *supra* note 66, at 52. Per the 2003 regulations, all operators in food production must record, maintain, and present the history of their products (a listing of the unique identifiers assigned to that class of GMO, an indication of each food ingredient produced with GMOs) and that history must not only be transmitted, in writing, with each shipment, but also kept on site for at least five years. Regulation (EC) No 1830/2003, *supra* note 65.

⁷⁴ Harriet Grant, *UN Agencies 'Broke and Failing' in Face of Ever-Growing Refugee Crisis*, GUARDIAN (Sept. 6, 2015, 5:00 PM), <http://www.theguardian.com/world/2015/sep/06/refugee-crisis-un-agencies-broke-failing>.

CONCLUSION

Insisting upon onerous, misleading, and deceptive labels for GMO foods not only serves to cripple a global industry much needed in today's ever-growing world, but also does more actual harm that far outweighs any perceived well-intentioned possible benefits. Due to its continual reliance on expert studies, testimony, and information when approaching the concept of GMOs, the FDA has never wavered in its attitude of acceptance. Properly vetted and policed, the FDA, in granting approvals, has steadfastly acknowledged many GMO strains as biologically identical to original samples without any detrimental consequences. Given the lack of scientific evidence of any harm caused by GMOs, applying a polarizing GMO labeling approach to global markets could have a negative effect on the world economy.⁷⁵ Such regulations put an enormous amount of pressure on international trade as other countries continue to pursue reactionary policies against GMO products.⁷⁶ Any further insistence on labels beyond the FDA approach only serves to waste valuable time and resources.

Public interests would be best served by a hybrid system that encourages singular federal control that the EU exercises over GMO food labeling, but with the looser biological difference standard that the FDA takes in requiring such labels. The potential hybrid system solution for the United States would thus be a coupling of federal legislation with the current FDA agency guidelines for the overview of GMO labeling, thereby eliminating the confusion wrought by each state having its own set of labeling laws for products that are sold nationwide. Such a hybrid system, when applied to the EU, would retain the singular control of GMO labeling currently in place over all of its Member States, but would convert its hardline stance against GMO products into one that is more receptive of the global market.

The longer it takes to establish clear requirements on GMO (and non-GMO) labels, the more time there is for further confusion and abuse. Currently, there are already opportunistic companies taking advantage of the public paranoia and fear that stem from this uncertainty.⁷⁷ Fear and paranoia

⁷⁵ Wirth, *supra* note 71.

⁷⁶ Schwartz, *supra* note 73, at 772.

⁷⁷ One of the more audacious and despicable attempts at peddling on this fear are products that label table salt as non-GMO at premium prices. Hank Campbell, *Non-GMO Salt: I Can't Wait to See This in Whole Foods*, SCIENCE 2.0 (May 14, 2013, 3:00 PM), http://www.science20.com/cool-links/nongmo_salt_i_cant_wait_to_see_this_in_whole_foods-111929. See Shea Gunther, *Facepalm of the Week: Non-GMO Salt!?*, MOTHER NATURE NETWORK (May 14, 2013, 7:33 AM), <http://www.mnn.com/food/healthy-eating/blogs/>

should always be met with reason and level discourse. In terms of the GMO debate, this means utilizing technology to its fullest while still making sure Dr. Frankenstein is not stitching together his next masterpiece unfettered and unaccountable. Those needed limits and responsibilities can be addressed in part by labeling regimes, but should not be done in such a way as to be needlessly cumbersome to those producing the world's foodstuffs merely to placate those who, while concerned, would substitute extra fervor in place of becoming properly informed.

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facepalm-of-the-week-non-gmo-salt ("Salt is not living. Salt cannot, by definition, be genetically modified. There is no G to M because salt is not an O.").

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