

2016

## Mystery Date: Advocating for a Harmonized System of Expiration Date Labeling of Food

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### Recommended Citation

Akshat Tiwari, *Mystery Date: Advocating for a Harmonized System of Expiration Date Labeling of Food*, 49 *Vanderbilt Law Review* 1447 (2021)

Available at: <https://scholarship.law.vanderbilt.edu/vjtl/vol49/iss5/6>

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# Mystery Date: Advocating for a Harmonized System of Expiration Date Labeling of Food

## ABSTRACT

*Americans throw out roughly 25 percent of the food they bring home. Negative perceptions associated with expiration dates are a leading cause for this waste. However, a complex patchwork of state-run regulatory regimes and varying terminology makes it difficult for consumers to determine whether a food product is unsafe to eat or simply past a peak quality level arbitrarily set by manufacturers. Regulatory trends in Europe, the United Kingdom, Canada, Australia, and New Zealand suggest a move towards binding expiration date labeling through guidelines for establishing a “best before” or “use-by” date. This Note examines laws currently in place in these five jurisdictions, analyzes global and local legal requirements to be met by any proposed expiration date-labeling regulation, and proposes a model food-labeling regulation that may be adopted by governments globally to facilitate commerce and protect consumer choice.*

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## I. INTRODUCTION

Global greenhouse gas emissions and associated climate change have increased exponentially in recent years.<sup>1</sup> Changes in household behavior have the potential to reduce emissions much more quickly than changes in industrial output.<sup>2</sup> Given that Americans throw out 25 percent of the food they bring home, even modest mitigation of household food waste could significantly reduce global emissions.<sup>3</sup> Packaging of foods plays a significant role in the amount of food that households waste.<sup>4</sup> Roughly 25 percent of food waste is related to packaging design attributes, both design characteristics observed by consumers, such as ease of use or size, and informational characteristics like expiration date labels.<sup>5</sup>

While the federal government recognizes that laws are needed to address the issue of food waste, no American agency has promulgated comprehensive food-labeling regulations.<sup>6</sup> With some minor exceptions, food expiration dates are currently unregulated.<sup>7</sup> Multiple dates, inconsistent usage, failure to consider safety, and a lack of

1. Thomas Dietz et al., *Household Actions Can Provide a Behavioral Wedge to Rapidly Reduce US Carbon Emissions*, 106 PROC. NAT'L ACAD. SCI. U.S.A. 18452, 18452 (Elinor Ostrom ed., 2009).

2. See Stephen Pacala & Richard Socolow, *Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies*, 305 SCI. 968, 968 (2004) (arguing that reduced consumption rather than new technology will slow climate change in the first half of the twenty-first century).

3. See DANA GUNDERS, NAT. RES. DEF. COUNCIL, WASTED: HOW AMERICA IS LOSING UP TO 40% OF ITS FOOD FROM FARM TO FORK TO LANDFILL 10 (2012), <http://www.nrdc.org/food/files/wasted-food-ip.pdf> [<https://perma.cc/8KBZ-NF82>] (archived Oct. 2, 2016) (citing a study showing that 15 percent of food is lost, while 10 percent of liquid products are lost).

4. See Williams et al., *Reasons for Household Food Waste with Special Attention to Packaging*, 24 J. CLEANER PRODUCTION 141, 147 (2012) (explaining that environmentally conscious consumers are more likely to waste food due to packaging problems).

5. See *id.* (noting one study of Swedish residents that found that packaging causes 20–25 percent of food waste).

6. Press Release, USDA, USDA and EPA Join with Private Sector, Charitable Organizations to Set Nation's First Food Waste Reduction Goals (Sept. 16, 2015) (<http://www.usda.gov/wps/portal/usda/usdahome?contentid=2015/09/0257.xml>) [<https://perma.cc/3L8P-E688>] (archived Sept. 15, 2016) (food-labeling efforts limited to creating a mobile application for consumers).

7. See *id.*

education cause consumers to discard food prematurely.<sup>8</sup> This food waste ultimately becomes municipal solid waste and decomposes anaerobically to produce a significant proportion of American methane releases.<sup>9</sup> Furthermore, the production and transport costs for wasted food in the United States now accounts annually for more than a quarter of the total freshwater consumption and amounts to 300 million barrels of oil consumption.<sup>10</sup>

The negative perceptions engendered by expiration dates have a strong deleterious influence on an individual's acceptance of food.<sup>11</sup> In fact, there is a marked decline in perceptions of the acceptability, freshness, and safety of food the day after it is believed to expire.<sup>12</sup> It follows that extending the food-labeling date to express food safety rather than merely a food's prime quality would mitigate the negative influences associated with expiration dates. An expiration date-labeling program could reduce carbon emissions in multiple ways, including: (1) by influencing consumer choices, (2) reducing the amount of municipal solid waste, and (3) reducing transportation costs. Furthermore, acknowledging that political free market concerns, the socio-temporal trap, public opinion on climate science, and the design features of Congress all present considerable barriers to passing or ratifying climate mitigation legislation or treaties, expiration date labeling would be a low-hanging fruit that could readily be achieved through the agency rule-making process in the American context.<sup>13</sup>

In order to improve the choices made by consumers and the safety of the food consumed, and to guarantee consumers' right to information, governments should endeavor to ensure that the public is appropriately informed with regard to the food it consumes. To this end, several regions of the world have successfully established comprehensive food-labeling programs. This Note focuses primarily on the British Food Labeling Regulations, the European Regulation Number 1169/2011, and the Australia-New Zealand Food Standards Code. A modified version of these labeling systems, that places a

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8. See *id.* (stating that food safety initiatives and educational campaigns will reduce food waste).

9. See EPA, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2014, 18 (2015).

10. See Kevin D. Hall et al., *The Progressive Increase of Food Waste in America and Its Environmental Impact*, 4 PLOS ONE Nov. 2009 at 2 (detailing how food waste drains resources).

11. See Brian Wansink & Alan O. Wright, "Best if Used By . . ." *How Freshness Dating Influences Food Acceptance*, 71 J. FOOD SCI. 354, 356 (2006) (finding that expired dates had a statistically significant impact on taste and acceptance).

12. *Id.*

13. See generally Michael P. Vandenberg & Jonathan M. Gilligan, *Beyond Gridlock*, 40 COLUM. J. ENV. L. 217, 237 (2014) (detailing the many issues facing potential environmental legislation and advocating for private environmental governance as a solution).

greater emphasis on food safety concerns, could prove vital in reducing premature disposal of food goods and reducing carbon emissions and the incidence of foodborne illnesses.<sup>14</sup>

This Note examines the benefits and failures of existing legislation and proposes a new solution rooted in existing international date-labeling regimes. Part II discusses the factual background of the problem and the rationale for seeking a solution by examining the economic, environmental, and epidemiological effects of the current fractured system. Part III recounts the history of state, federal, and international efforts to institute a comprehensive food-labeling system. Part IV proposes a new solution in the form of an International Food-Labeling Regulation, a model rule that draws from the best international proposals and that every nation can adopt.

## II. THE PROBLEM OF DATE LABELING

While comprehensive research on the connection between date labeling and food waste has not yet been conducted in the United States, the British Waste and Resource Action Programme (WRAP) reported that confusion over date labeling accounts for an estimated 20 percent of avoidable household food waste in Britain.<sup>15</sup> Given the similarities between culture and consumption, it is not unimaginable that a similar study in America would yield comparable results. Three key problems that currently exist in the United States are that manufacturers can choose (1) when to include date labels, (2) which label to include, and (3) how the expiration label date is set.

A Food and Drug Administration (FDA) report found that while manufacturers list some common criteria for deciding whether to include expiration date labels on one of their products, their answers generally varied widely.<sup>16</sup> While most manufacturers agreed that extremely perishable food products require expiration dates that inform consumers of freshness, there was a wide range of responses for products with marginal shelf life, illustrating the broad level of discretion left to manufacturers.<sup>17</sup> While some made their decision based on space constraints on packaging, others considered their marketing strategy, lack of printing equipment, additional costs,

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14. See *id.* at 268.

15. See WASTE AND RESOURCES ACTION PROGRAMME, CONSUMER INSIGHT: DATE LABELS AND STORAGE GUIDANCE 115 (2011), [http://www.wrap.org.uk/sites/les/wrap/Technical\\_report\\_dates.pdf](http://www.wrap.org.uk/sites/les/wrap/Technical_report_dates.pdf) [<https://perma.cc/TM9E-RQ7W>] (archived Sept. 18, 2016) (reaching that statistic based on consumer surveys).

16. See E. RESEARCH GRP., CURRENT STATE OF FOOD PRODUCT OPEN DATES IN THE U.S., 1–13 (2003) (showing the range of industry group preferences).

17. See *id.* at 3–4 (explaining how shelf stable foods create a labeling problem for manufacturers).

company philosophy, or even brand manager preferences when deciding whether to include expiration date labels.<sup>18</sup>

Currently, with the exception of infant formula, no federal food expiration date-labeling requirements exist in the United States.<sup>19</sup> Manufacturers may provide an array of dates, including:

- (1) the “production” or “pack” date, which provides the date on which the food product was manufactured or placed in its final packaging; (2) the “sell by” date, which provides information to retailers for stock control leaving a reasonable amount of shelf life for the consumer after purchase; (3) the “best if used by” date, which typically provides an estimate of the date after which food will no longer be at its highest quality; (4) the “use by” date, which also typically is a manufacturer’s indication of the “last date recommended for the use of the product while at peak quality”; (5) the “freeze by” date, which is a reminder that quality can be maintained much longer by freezing product; and (6) even the “enjoy by” date used by some manufacturers, and not clearly defined in a way that is useful to consumers.<sup>20</sup>

While the definition of expiration dates is currently left to the manufacturer’s discretion, the sheer variety of expiration dates used by the industry adds another layer of confusion for consumers, offering consumers no useful guidance once they have brought their purchases home.<sup>21</sup> It is also important to recognize that the meaning of these dates may vary from product to product and among manufacturers of the same products since there is no industry consensus surrounding which date-labeling form should apply to different categories of food goods.<sup>22</sup>

Under the current regime, food product manufacturers are free to decide for themselves not only when to use a date label and which date label to use, but also how this date is determined. Manufacturers determine the perishability of products by looking at several factors: the product’s formulation, including its moisture content, pH, and the addition of chemical and microbial preservatives and antioxidants; processing, or how the product is prepared and stored; and storage conditions, including gas composition, humidity, pressure, light, and temperature.<sup>23</sup> If a product is found to be perishable, the shelf life is

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18. See *id.* at 3-4–3-5 (discussing manufacturers’ preferences).

19. See *Did You Know that a Store can Sell Food Past its Expiration Date?*, FOOD & DRUG ADMIN. (FDA), <http://www.fda.gov/AboutFDA/Transparency/Basics/ucm210073.htm> (last visited Oct. 15, 2016) [<https://perma.cc/QT8C-EJPH>] (archived Sept. 15, 2016) [hereinafter *Did you know?*] (warning that expired food labeling is not required).

20. EMILY LEIB ET AL., NAT. RES. DEF. COUNCIL, *THE DATING GAME: HOW CONFUSING FOOD DATE LABELS LEAD TO FOOD WASTE IN AMERICA* 17 (2013) <http://www.nrdc.org/food/files/dating-game-report.pdf> [<https://perma.cc/2ZYP-V294>] (archived Sept. 15, 2016) (listing the ways in which manufacturers may determine expiration dates).

21. *Id.*

22. See *id.* (noting that dates on packaging are ambiguous).

23. See E. RESEARCH GRP., *supra* note 16, at 3-10–3-11.

determined using testing or published data; however, in the absence of any form of regulation, many manufacturers continue to use customer complaints as the primary tool for setting expiration dates.<sup>24</sup>

The lack of uniform date-labeling requirements leaves manufacturers free to define shelf life according to their own needs, with some defining it as “a change in product quality over time,” and others defining shelf life to mean the sheer absence of any decline in product quality.<sup>25</sup> Those manufacturers and retailers opposed to any quality change in their product generally choose to set their label dates earlier to ensure that food is consumed only at its peak freshness, but this results in food expiring more quickly. Ultimately, this creates a high degree of variability, arbitrariness, and imprecision in the date-labeling process.

The importance of expiration dates cannot be overstated. A recent study by the Harvard Law School’s Food Law and Policy Clinic found that over 90 percent of Americans occasionally threw edible food away based on the “sell by” date, out of a mistaken concern for food safety.<sup>26</sup> A survey of grocery-store workers illustrated the extent of the confusion, as even employees themselves did not distinguish between different food-labeling dates.<sup>27</sup> The importance of “use by” dates is made more apparent when considering the environmental, economic, and epidemiological impacts of the current fractured system.

### A. Environmental Impact

U.S. per capita food waste has increased dramatically by roughly 50 percent since 1974.<sup>28</sup> Currently, food waste contributes to excess consumption of freshwater and fossil fuels and causes the release of methane and other carbon compounds from decomposing food, impacting global climate change.<sup>29</sup> Roughly 40 percent of food in America goes uneaten, and according to even the most conservative estimates, Americans waste 160 billion pounds of food each year.<sup>30</sup> Producing and transporting such vast quantities of ultimately wasted food accounts for more than one quarter of total freshwater use and the use of roughly 300 million barrels of oil per year in America alone.<sup>31</sup>

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24. See *id.* at 3–11 (describing how consumer complaints supplement scientific data to help manufacturers determine expiration packaging dates).

25. See LEIB ET AL., *supra* note 20, at 17 (citations omitted) (discussing manufacturers’ varying preferences for allowing product degradation).

26. Press Release, Nat. Res. Def. Council, Food Expiration Date Confusion Causing up to 90% of Americans to Waste Food (Sept. 18, 2013) (<http://www.nrdc.org/media/2013/130918.asp> [<https://perma.cc/5FMW-GZE6>] (archived Sept. 15, 2016)).

27. *Id.*

28. See Hall et al., *supra* note 10, at 3.

29. See generally *id.*

30. See *id.* at 1–2 (comparing the author’s estimates with the USDA’s figures).

31. See *id.* at 2 (author’s estimates).

Since roughly 70 percent of the U.S. fresh water supply is currently consumed in agriculture, wasting such vast quantities of fresh water constitutes a serious misuse of resources.<sup>32</sup> The EPA reported that over 34 million metric tons of food scraps were generated in 2010, almost all of which went into the waste stream.<sup>33</sup> This makes food the greatest source of waste headed to landfills in America, at 21 percent of all land fill input.<sup>34</sup> Furthermore, food loss in America has been on the rise for the past several decades, with per capita food loss increasing by 50 percent since 1974.<sup>35</sup>

Moreover, food waste rotting in landfills produces vast quantities of hydrocarbons like methane, which have a twenty-five times more potent global warming potential than carbon dioxide.<sup>36</sup> Carbon dioxide would have been the primary end product had the food actually been consumed by humans.<sup>37</sup> While the methane output for all food waste anaerobically digesting in U.S. landfills has not yet been calculated, it is estimated to be substantial.<sup>38</sup> Food waste in the United States has a very high moisture content, which makes anaerobic biodegradation the most efficient method of digesting the waste.<sup>39</sup> However, the anaerobic conditions that are created by landfills and other municipal waste facilities, coupled with how easily food waste biodegrades in such oxygen-free conditions, causes the food to exhibit a very high methane yield.<sup>40</sup> This fact, when taken with the 160 billion pounds of food wasted every year in the United States alone, leads one to assume that the methane output for the country is likely substantial.<sup>41</sup> Some have calculated that the United States could reduce carbon emissions by 113

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32. *Id.*

33. U.S. ENVTL. PROT. AGENCY, FOOD SCRAP RECYCLING: A PRIMER FOR UNDERSTANDING LARGE-SCALE FOOD SCRAP RECYCLING TECHNOLOGIES FOR URBAN AREAS 3 (2012), [hereinafter FOOD SCRAP REPORT] <https://www3.epa.gov/region1/composting/pdfs/FoodScrapRecycling.pdf>.

34. *See id.*

35. *See* Hall et al., *supra* note 10, at 3 (statistic resulting from author's estimations, but correspond with other researchers findings).

36. *Id.*

37. *See id.* at 2.

38. *See* FOOD SCRAP REPORT, *supra* note 33, at 7 ("In landfills, the digestion of food scraps and other organic waste materials produces methane, a greenhouse gas that is a significant contributor to climate change. Landfills, accounting for more than 17 percent of methane emissions in 2009, are the major source of human-related methane emissions in the United States.")

39. *See* Zhang et al., *Characterization of Food Waste as Feedstock for Anaerobic Digestion*, 98 BIORESOURCE TECH. 929, 929 (2006) (compiling a list of studies noting moisture content in waste).

40. Cho et al., *Biochemical Methane Potential and Solid State Anaerobic Digestion of Korean Food Wastes*, 52 BIORESOURCE TECH. 245, 245 (1995).

41. *See id.* (replicating such methane output on a smaller scale); Zhang *supra* note 39, at 929 (citing Cho et al., *supra* note 40, at 245).



million metric tons annually simply by reducing food waste.<sup>42</sup> Additionally, roughly 100 million acres of cropland could be saved if developed countries reduced consumer food waste by even 30 percent.<sup>43</sup>

### B. *Economic Impact*

American families throw out approximately 20 percent of the food and beverages they buy.<sup>44</sup> The cost estimate for food waste in the average family is between \$1,365 and \$2,275 annually.<sup>45</sup> One study put annual losses in the United States resulting from food waste at \$198 billion.<sup>46</sup> Consumer food waste also results in wasted energy.<sup>47</sup> Due to the costs associated with energy use within the food supply chain and in food preparation, household losses are equivalent to eight times the losses incurred post-harvest by industrial food manufacturers.<sup>48</sup> While the cost of food waste to households is substantial, industry food waste caused over \$900 million worth of inventory loss.<sup>49</sup> Vast quantities of food inventory is removed from the supply chain due to date code confusion and “sell by” date expiration, and industry studies have identified the lack of standardization around date coding as one of the many factors driving that loss.<sup>50</sup>

Consumer confusion and misperception of the true meaning of the various date-label terms results in a significant portion of the food wasted in the United States. The current practice of including publicly visible “sell by” and “best before” dates usually results in a higher number of unsaleable and discarded food items for retail stores.<sup>51</sup> As stated previously, an estimated \$900 million worth of inventory was removed from the supply chain due to “sell by” date code expiration in the United States alone, and the lack of standardization around expiration date labeling was identified as a major factor behind that loss.<sup>52</sup> This loss is absorbed as a cost of doing business by retailers, a

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42. Kumar Venkat, *The Climate Change and Economic Impacts of Food Waste in the United States*, 2 INT'L J. FOOD SYS. DYNAMICS 431, 444 (2011) (modeling gas emissions based on national data of food waste at 29 percent).

43. See LEIB ET AL., *supra* note 20, at 5 (referencing a study performed by a consulting company).

44. See GUNDERS, *supra* note 3, at 12 (“American families throw out 25 percent of the food and beverages they buy.”).

45. See *id.*

46. See Venkat, *supra* note 42, at 444 (author’s own estimates).

47. See *id.* (exact figures subject to great uncertainty since energy used during cooking is tough to estimate).

48. See *id.* at 441 (showing waste for various food products distributed across consumers and manufacturers).

49. See *id.* at 444 (representing 40 percent of overall food waste).

50. See LEIB ET AL., *supra* note 20, at 22 (compiling a list ways that uncertainty around labeling drives waste).

51. *Id.*

52. See *id.* (using 2001 supply chain figures).

direct economic loss by manufacturers, or an eventual cost passed on to consumers in the price of goods.<sup>53</sup>

Retail experts acknowledge the difficulty of large-scale food corporations to comply with divergent state regulations.<sup>54</sup> With the current regulatory differences amongst the various states and nations, food manufacturing companies must use separate packaging lines for products entering different markets in order to comply with the various state laws.<sup>55</sup> To avoid the costs created by such a practice, manufacturers must either choose to not do business in a state or to follow the strictest state labeling regulations for all of their products and for all locations.<sup>56</sup> Thus, the existing date-labeling regime could be having a significant economic impact through its prohibitive effects.<sup>57</sup>

### C. Epidemiological Impact

The absence of expiration date-labeling systems that consider food safety continues to have a negative impact on public health by failing to consider microbiological agents in perishable foods that do not impact food quality.<sup>58</sup> Spoilage of food products is considered the greatest threat to food safety by a majority of Americans.<sup>59</sup> Consumers exceedingly count on freshness and expiration dates to determine whether a food is safe for consumption, not knowing that the dates reflect only quality and neglect food safety entirely.<sup>60</sup> Since experts believe that most cases of foodborne disease are caused by food prepared at home, poor labeling perpetuates enteric disease outbreaks worldwide.<sup>61</sup>

By failing to accurately predict the proper handling methods and a date at which foods are likely to spoil, the current labeling regime invites consumers to guess as to when their food goods are merely declining in quality or deteriorating to a medically dangerous level. Studies looking for the best method of labeling ready-to-eat (RTE) meat

53. *Id.*

54. *Id.*

55. *Id.*

56. *Id.*

57. *Id.*

58. See Maher et al., *Growth and Survival of E. coli O157:H7 During the Manufacture and Ripening of a Smear-ripened Cheese Produced from Raw Milk*, J. APPLIED MICROBIOLOGY 201, 206 (2001) (study showing that commercially distributed cheese might contain dangerous bacteria).

59. See Janet Collins, *Impact of Changing Consumer Lifestyles on the Emergence/Reemergence of Foodborne Pathogens*, 3 EMERGING INFECTIOUS DISEASES 471, 474 (1997).

60. See *id.* (22 percent of consumers relying on expiration dates).

61. Fein et al., *Foodborne Illness: Perceptions, Experience, and Preventive Behaviors in the United States*, 58 J. FOOD PROTECTION 1405, 1410 (1995) (finding that many individuals misattribute food-borne illness causes).

products to avoid cases of listeriosis found that "use by" dates were considered clearer and more helpful than "sell by" or "best if used by" labels by respondents.<sup>62</sup> Labels giving consumers instructions on how long they could keep RTE meat products and when to discard them after opening were also considered helpful.<sup>63</sup> Studies for *Listeria monocytogenes* and *Escherichia coli* O157:H7 in deli meats and fresh produce, respectively, found that strict temperature control during refrigerated storage in retail delis reduced the risk of listeriosis; however, continued bacteriostatic temperature control was required after purchase.<sup>64</sup> Therefore, a system that details when the item was frozen, instructions on home storage, and the date at which the food will likely be unsafe for human consumption would help consumers avoid enteric diseases.<sup>65</sup>

### III. THE HISTORY OF DOMESTIC AND INTERNATIONAL DATE LABELING

The lack of federal date-labeling standards—and the resulting state and local regulatory discordance in expiration date-labeling laws—has led to a proliferation of varied and conflicting date-labeling practices in the food industry. Expiration dates can come in a great variety of forms, none of which are well defined at any level of government or industry. This haphazard system is not serving its purpose well. The primary purpose of food labels is to inform consumers and to help market the freshness of products. The information conveyed by the labels has evolved over time under the influence of interested parties such as growers, manufacturers, retail groups, government agencies, and consumer groups. This Part looks at the progression of attempts to address the problem of food waste and their relative successes and failures.

#### A. State Efforts

Virtually every state in the United States has adopted expiration date-labeling requirements in some form.<sup>66</sup> Several states have attempted to address food waste by enacting Good Samaritan food donation laws that limit the liability of a donor.<sup>67</sup> California was the

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62. See Lenhart et al., *Consumer Assessment of Safety and Date-labeling Statements on Ready-to-Eat Meat and Poultry Products Designed To Minimize Risk of Listeriosis*, 1 J. FOOD PROTECTION 70, 76 (2008).

63. See *id.*

64. See *id.*

65. See *id.*

66. See LEIB ET AL., *supra* note 20, at 13–16 (noting that forty-one states having at least "some" requirements).

67. David L. Morenoff, *Lost Food and Liability: The Good Samaritan Food Donation Law Story*, 57 FOOD DRUG L.J. 107, 107 (2002).

first state to address the problem of food waste by enacting the nation's first food donation statute.<sup>68</sup> Within ten years of California's adoption of a Good Samaritan food donation law, every other state similarly concluded that the social benefits of feeding hungry people did indeed outweigh the cost of limiting people's right to sue for an injury incurred in consuming donated food.<sup>69</sup> However, some scholars noted that a national framework was necessary to avoid the "confusing patchwork of legal terminology" that resulted from a state-led effort.<sup>70</sup>

Expiration date-labeling requirements exist in nearly thirty states, or roughly 60 percent of the country.<sup>71</sup> However, types of food and quality of labeling vary drastically.<sup>72</sup> Of the states requiring some form of expiration date-labeling, 43 percent have regulations limiting labeling requirements to milk products, while 20 percent have expiration date regulations applicable to all perishable products. The other types of food products regulated include eggs, reduced-oxygen-packaged food, smoked salmon, and pre-wrapped sandwiches.<sup>73</sup> Only one state, Massachusetts, regulates perishable, semi-perishable, and long-shelf life foods in line with European and Australasian standards.<sup>74</sup> The date labeling required by the various state statutes also differs significantly on terminology.<sup>75</sup> While some states mandate a "sell by" date, others require the use of "best if used by" or "not to be consumed after" dates.<sup>76</sup>

State regulations can be grouped into four discrete categories: (1) states that require expiration date labels on certain foods up to a set date, but do not regulate sales after the date is reached; (2) states that do not require expiration date labels but broadly regulate sales if date labels are voluntarily applied; (3) states that regulate both the presence of date labels and, broadly, the sale of products after those dates; and (4) states that do not require or regulate date labels at all.<sup>77</sup>

This variation in requirements creates an unnavigable regulatory field for manufacturers. For example, Michigan requires packaged perishable foods to include a date with or without explanatory terms like "sell by" or "best before"; Rhode Island requires packaged bakery products to contain "pull by" dates that require retailers to refrain from selling foods that reach a certain date; New Hampshire and Georgia

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68. *Id.* at 112; *see, e.g.*, CAL. FOOD & AGRIC. CODE § 58505 (West 2000).

69. Morenoff, *supra* note 67, at 116.

70. *Id.* at 117.

71. E. RESEARCH GRP., *supra* note 16, at 1-3, 1-5.

72. *See id.* at 1-4 (showing the differences among states in adopting NCWM Uniform Open Dating Regulation).

73. *Id.* at 1-5.

74. *Id.*

75. *Id.*

76. *Id.*

77. *See* LEIB ET AL., *supra* note 20, at 12.

are the only states to explicitly regulate pre-wrapped sandwiches; and nine states have no regulations regarding food date labeling whatsoever.<sup>78</sup>

The National Institute of Standards and Technology (NIST) is a non-regulatory federal agency within the U.S. Department of Commerce that aims to develop and promote uniformity among states concerning local weights, and measures standards.<sup>79</sup> The NIST provides optional expiration dating regulations for states to adopt; however, only New Hampshire and Oklahoma have fully adopted the standards. The remaining states either use the standard as a guideline, make an alternative law or regulation, or simply do not mandate any form of expiration date labeling at all.<sup>80</sup>

### B. National Efforts

With the notable exception of infant formula, the regulations promulgated by the FDA do not require food manufacturing companies to place "expired by," "use by," or "best before" dates on food products.<sup>81</sup> "This information is entirely at the discretion of the manufacturer."<sup>82</sup> Furthermore, the FDA does not preclude the sale of food that is past the expiration date indicated on the label.<sup>83</sup>

It is important to consider the exception that requires expiration date labeling on infant formula. In response to a series of recalls of infant formula products that were causing illnesses among children, Congress passed the Infant Formula Act of 1980, mandating that the FDA set uniform standards for the nutritional content of these products.<sup>84</sup> Under this Act, the FDA established a range of regulations impacting infant formula, including a requirement that its labels display "use by" dates.<sup>85</sup> However, Congress did not extend the privilege of safe food to all consumers.

The Bill Emerson Good Samaritan Food Donation Act ("Emerson Act") has been the federal government's only major foray into the field of regulating food waste in the past. In 1996, the Emerson Act was made law in an effort to encourage growers, consumers, and businesses

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78. See *id.* at 15 (discussing variations in state open dating regulatory regimes).

79. See E. RESEARCH GRP., *supra* note 16, at 1–2.

80. See *id.* at 1–3.

81. See *Did you know?*, *supra* note 19.

82. *Id.*

83. See *id.*

84. Toby Milgrom Levin, *The Infant Formula Act of 1980: A Case Study of Congressional Delegation to the Food and Drug Administration*, 42 FOOD DRUG COSM. L.J. 101 101 (1987).

85. See Labeling, Marking Devices, and Containers, 9 C.F.R. § 317.8 (2016).

to donate food to those in need.<sup>86</sup> The Emerson Act tried to achieve its stated goal of encouraging food donation in a few different ways: (1) it reduced liability for those who donate food to non-profit organizations; (2) it set a liability standard for others donating food; and (3) it created a definition of gross negligence and intentional misconduct with regards to food donation.<sup>87</sup> To incentivize food donations, the Emerson Act protects from liability the corporations and individuals who donate food to those in need and the non-profits that serve them.<sup>88</sup> Although the Emerson Act is a necessary part of the framework for preventing food waste, it is insufficient to prevent the vast majority of food waste that occurs in households.

The federal government has also enacted several voluntary expiration date-labeling programs.<sup>89</sup> The primary example of voluntary guidance is the Uniform Open Dating Regulation, created by the Department of Commerce due to the “lack of uniformity between jurisdictions” that could impede interstate commerce.<sup>90</sup> The Department of Commerce promulgated model regulations that use “sell by” dates as the label date that jurisdictions should require for pre-packaged perishable foods and “best if used by” dates as the period that should be required for semi-perishable or long-shelf life foods.<sup>91</sup> The model regulation also includes guidance for properly calculating the label date and for indicating how a manufacturer should display that date on the product.<sup>92</sup> Although nation-wide adoption of the model regulation would create uniformity across the United States and reduce the manufacturing and retail costs associated with expiration dates within the United States, it would have little effect worldwide.<sup>93</sup> Furthermore, only eight states have adopted the Department of Commerce’s model regulation.<sup>94</sup> The model regulation suffers from the same major flaws that plague current state regulation, including a visible “sell by” date that confuses consumers.<sup>95</sup>

Another example of federal voluntary guidance is the FDA Food Code, which provides model regulations for state and local governments on food safety laws pertaining to shellfish and ready-to-eat hazardous foods; however, like the Department of Commerce’s

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86. See The Bill Emerson Good Samaritan Food Donation Act, 42 U.S.C.A. § 1791 (1996) (removing civil or criminal liability arising from apparently wholesome food donated in good faith to a nonprofit organization).

87. See Morenoff, *supra* note 66, at 107–08.

88. 42 U.S.C.A. § 1791.

89. LEIB ET AL., *supra* note 20, at 11.

90. *Id.*

91. *Id.*

92. *Id.*

93. *See id.*

94. *See id.* (recognizing those states as Arkansas, Connecticut, Nevada, Oklahoma, West Virginia, Michigan, South Dakota, and Washington).

95. *Id.*

model regulation, this code is voluntary.<sup>96</sup> Nevertheless, it has been more successful than the model regulation as several states have adopted it.<sup>97</sup> States make use of the expertise of FDA regulators while adding amendments to reflect the idiosyncrasies of their individual needs.<sup>98</sup> However, due to the changes made by several state legislatures in implementing the code, uniformity is ultimately lost.<sup>99</sup>

### C. Private Environmental Governance

While regulations in all but nine American states and most developed nations mandate the presence of date labels on specific foods, they rarely dictate the criteria that food industry should use to arrive at the date on the label, thus leaving the decision entirely up to industry discretion.<sup>100</sup> Such erratic regulation of expiration date labeling at the international, national, state, and local levels necessarily forces food manufacturers to maneuver complex and conflicting regulations to decide the type and substance of labels. Adding to the convoluted regulatory regime in the area, food manufacturing organizations—as a response to the ambiguity—have created their own voluntary regimes for expiration date labeling.<sup>101</sup>

The most prominent governance regimes include the Association of Food Industries, which recommends expiration dating of cooking oils; the Food Marketing Institute, which supports a voluntary “sell by” date accompanied by “best if used by” information; the International Dairy-Deli-Bakery Association, which recommends “sell by” dates for foods that are put on display in a grocery store; and the National Food Processors Association, which promotes a harmonized date-labeling program for refrigerated and frozen foods, while indicating that manufacturers are in the most knowledgeable position to establish the specific date-labeling information.<sup>102</sup>

In addition to such organizations, large retailers like Walmart have instituted supply-chain contracting to create yet another date-labeling practice for products sold in their stores. This expiration date-labeling requirement, designed to assure consumers of the freshness of their food products, obligates its suppliers to place a “best if used by”

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96. *Id.* at 11–12.

97. *See id.* (noting that several states have chosen to adopt the Food Code because it reflects the expertise of dozens of food safety experts).

98. *See id.* at 12 (noting the Food Code is not itself law, but only becomes binding when states adopt it by statute or regulation).

99. *Id.*

100. *See id.* at 15 (discussing the role of industry in creating the form and content of date labels).

101. *See* E. RESEARCH GRP., *supra* note 16, at 1–13 (listing the various private governance regimes).

102. *See id.*

date on all food.<sup>103</sup> Such retail-mandated labels have a substantial impact on food manufacturers, especially considering the large share of the grocery market that retailers like Walmart occupy.<sup>104</sup>

#### D. *International Efforts*

Several international efforts for comprehensive date labeling have succeeded in the past twenty years. This Note focusses primarily on British, European, Canadian, Japanese, and combined Australian and New Zealand expiration date-labeling regulations. While some variations exist among the respective regulations, each of these jurisdictions adopts some form of legal terminology and defines it clearly in order to harmonize labeling practices within its territory.

The British Food Labeling Regulations (UK Regulations) lay out the various labels that all foods must contain and some good practice information that manufacturers are recommended to provide.<sup>105</sup> The UK Regulations require manufacturers to label foods with one of two dates: a “best before” date, which is the date up to which the food will be at its best quality, or a “use by” date, which is for those foods that are highly perishable from a microbiological point of view and that are likely to present a risk of causing an enteric disease.<sup>106</sup> The UK Regulations also require labeling of (1) the food’s name, (2) ingredients, (3) the “best before” or “use by” date, (4) appropriate storage conditions, (5) manufacturer details, (6) place of origin, and (7) instructions for use of the food.<sup>107</sup>

The formation of the European Union made it necessary to harmonize national legislations to permit free trade and provide for equal conditions of competition within the internal market of the European Union. The EU’s Regulation 1169/2011 on the provision of food information to consumers (“EU Regulation”) details Europe’s effort to ensure food safety and prevent food waste through the use of harmonized food labels.<sup>108</sup> The EU Regulation provides for the manner of indicating the date of minimum durability, the manner of indicating the country of origin for meat, the precision of the declared values for

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103. LEIB ET AL., *supra* note 20, at 16.

104. See Charles Courtemanche & Art Carden, *Supersizing Supercenters? The Impact of Walmart Supercenters on Body Mass Index and Obesity*, 69 J. URB. ECON. 165, 166 (2011) (noting Walmart’s grocery volume in 2004 was over twice that of Kroger, the largest supermarket chain in the United States).

105. See The Food Labeling Regulations 1996 (SI 1996/1499) (Eng.) (containing general labeling requirements).

106. *Id.*

107. *Id.*

108. See Regulation 1169/2011 of Oct. 25, 2011, Food Information to Consumers, 2011 O.J. (L 304) 18.



the nutrition declaration, and the expression per portion or per consumption unit of the nutrition declaration.<sup>109</sup>

The Canadian Food Inspection Agency Act (CFIA Act) requires a “best before” date on all prepackaged foods with a durable life of ninety days or less, except for prepackaged fresh fruits and vegetables, individual portions of food served by restaurants and airlines, vending machine foods, and donuts.<sup>110</sup> The regulations promulgated by the Act define the “best before” date as the period during which the food will retain its “normal wholesomeness, palatability, and nutritional value” under appropriate storage conditions.<sup>111</sup> Under the CFIA Act, the expiration date must be represented in a year, month, day format, and it may be placed anywhere on the label, including the bottom of the product container, as long as a clear indication of its location is shown elsewhere on the label.<sup>112</sup>

Japan enforces a date-marking system for all food products, including raw, processed, dried, canned, and frozen foods.<sup>113</sup> The Japanese regulations require the product to bear a “best before” or an “expiry of consumption” date, with the latter being used for highly perishable foods that should be consumed soon after manufacture due to quality degradation.<sup>114</sup> The “best before” date, however, is not meant to imply the last day to consume the product, but rather to serve as a guideline for consumers.<sup>115</sup> Prior to 2013, Japanese regulations allowed food products to omit the expiration date if the product container was smaller than 30 cm<sup>2</sup>; however, Japan now mandates a “best before” date marking on all food labels regardless of size.<sup>116</sup>

The Australia New Zealand Food Standards Code (“Australian Code”) lists requirements for food goods, including additives, food safety, labeling, and genetically modified foods.<sup>117</sup> While the enforcement and interpretation of the Code is the responsibility of state and territory departments and food agencies within the two nations, a bi-national agency (Food Standards Australia New Zealand) administers and periodically re-evaluates the Code.<sup>118</sup> The Australian Code’s many requirements include: (1) a name or description of the food

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109. *Id.* at 24.

110. Canadian Food Inspection Agency Act, S.C. 1997, c. 6 (Can.).

111. *Data Markings and Storage Instructions*, CANADIAN FOOD INSPECTION AGENCY, <http://www.inspection.gc.ca/food/labelling/food-labelling-for-industry/date-markings-and-storage-instructions/eng/1328032988308/1328034259857?chap=0> (last visited Oct. 17, 2016) [<https://perma.cc/R2YD-P9X9>] (archived Oct. 17, 2016).

112. *See id.*

113. *See generally* US DEP’T AGRICULTURE, JA3054, GLOBAL AGRICULTURAL INFO. NETWORK REPORT (2013).

114. *See id.*

115. *See id.*

116. *See id.*

117. *See Australia New Zealand Act 1991*, s. 1.2.5. (2015) (Austl.).

118. *See id.*

sufficient to indicate the true nature of the food; (2) lot identification; (3) name and business address details in Australia or New Zealand of the supplier of the food; (4) mandatory warning and advisory statements and declarations; (5) ingredient labeling; (6) date marking; (7) nutrition information requirements; (8) percentage labeling of key or characterizing ingredients or components; (9) directions for use and storage; and (10) country of origin declarations.

Lastly, the Codex Alimentarius Commission, created by the Food and Agricultural Organization of the United Nations, develops voluntary food standards and guidelines.<sup>119</sup> Since the organization's primary objective is to promote coordination and harmonization of all food standards work undertaken by governmental organizations, the Commission has published guidelines for date labeling of foods that recommend the declaration of the "date of minimum durability" for prepackaged food products.<sup>120</sup>

The Commission suggests a "best before" date if the day is indicated or a "best before-end" date in other cases, with the date consisting of at least the day and month for products with a minimum durability of less than two months.<sup>121</sup> The Commission's "best before" date is not meant to indicate the last day one can consume the product,<sup>122</sup> but rather serves as a general guideline for consumers.<sup>122</sup> While the effect of the Commission on national regulatory regimes seems limited, as most nations do not seem to have adopted these suggestions, the Commission's suggestions are worth considering because the regulations of the European Union are modelled after the Codex Alimentarius Commission.<sup>123</sup> Furthermore, members of the World Trade Organization (WTO) that adopt the requirements of the Codex are considered to have met their international fair-trade obligations, providing added incentive for adherence with the Commission's suggestions.<sup>124</sup>

#### IV. THE AUTHORITY TO EFFECT CHANGE IN CURRENT REGIMES

State, national, and international laws restrict and define the scope of any labeling regime. These laws must be analyzed prior to creating a uniform expiration date-labeling system that conforms with the many legal requirements already in place. In addition, private environmental governance mechanisms provide industry with the tools

119. E. RESEARCH GRP., *supra* note 16, at 1–11.

120. *See id.* (discussing the purpose and practices of the Codex Alimentarius Commission).

121. *See* J. Claude Cheftel, *Food and Nutrition Labeling in the European Union*, 93 FOOD CHEMISTRY 531, 536 (2005).

122. *See id.*

123. *Id.* at 533.

124. *Id.*

necessary to effect change in the peripheries of an existing regulatory structure.

### A. State and Local Government Powers

While some form of expiration date labeling is currently required in nearly 60 percent of states, the range of food products covered by these state regulations varies drastically among the states.<sup>125</sup> The power to govern expiration date labeling of food products on a local level is shared by a variety of state departments, including the Department of Weights and Measures, the State Department of Health, the Department of Agriculture, and the Department of Commerce.<sup>126</sup> This ill-defined system has given birth to a regulatory program that imposes different requirements in all but nine states in the country.<sup>127</sup> While cooperation between the states could create some type of uniformity within the United States, the likelihood of that happening, or having a global impact, is low.

Expiration date labeling can also be locally regulated.<sup>128</sup> Baltimore prohibits the sale of any perishable food past its expiration date, whereas the state of Maryland does not.<sup>129</sup> This adds an additional layer of confusion for consumers and manufacturers, as cities within states can have food-labeling requirements that diverge greatly.<sup>130</sup> However, recently the trend is for cities to move towards conformity with state regulations in order to create some consistency, as was seen in New York.<sup>131</sup> In the past, New York City has required expiration dates on milk cartons despite the absence of any such requirement on any other food goods.<sup>132</sup> When the city finally repealed its date-labeling requirement, it realized that its own rule for expiration dates was unnecessary, as the dates were set arbitrarily by manufacturers, and if properly stored, milk continued to be safe for consumption even after the expiration date.<sup>133</sup>

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125. See E. RESEARCH GRP., *supra* note 16, at 1–5 (discussing differences among state labeling).

126. *Id.* at 1–3.

127. See LEIB ET AL., *supra* note 20, at 12 (noting that the remaining nine states have no date label requirements).

128. *Id.* at 15.

129. *Id.*

130. See *id.* (noting these disparities do not necessarily lead to improved public health and safety).

131. See *id.* (referencing New York City's repeal of a milk labeling requirement to conform with the state's regulations).

132. *Id.*

133. See *id.* (noting that New York state did not report any adverse health effects arising from the lack of a state-level "sell by" date requirement).

## B. Federal Powers

Federal authority to regulate food products is virtually absolute, as the Constitution's Commerce Clause grants the federal government the right to regulate food sold in interstate commerce.<sup>134</sup> The Food, Drug, and Cosmetics Act (FDCA) is one of the most robust sets of laws that regulates food products.<sup>135</sup> The FDCA grants the United States Department of Agriculture (USDA) and the FDA the power to regulate misbranded foods and misleading labels.<sup>136</sup> Together these two federal agencies have the ability to unilaterally, after public comment, implement a uniform date system that can reduce the confusion surrounding the numerous types of date labels required by states and used by manufacturers.<sup>137</sup> In the FDCA, Congress delegated its power to regulate food mislabeling to the FDA and the USDA, and together they have passed a small and selective number of federal regulations that govern labeling of different types of food.<sup>138</sup>

Most notably, the USDA regulations *permit* the addition of an expiration date to a regulated meat or poultry product's labeling under the USDA generic label provisions without *mandating* them.<sup>139</sup> Under the regulations, a calendar date may be shown on labeling when (i) the calendar date expresses "the month of the year and the day of the month for all products and also the year in the case of products hermetically sealed . . .," and (ii) immediately adjacent to the calendar date there is a "phrase explaining the meaning of such date . . ."<sup>140</sup>

Even though no agencies were given the explicit authority to standardize food labeling across the food manufacturing industry, the FDA and the USDA have been granted general authority to ensure food safety and to protect consumers from deceptive or misleading food package information, and they could reasonably exercise such power to promulgate rules on expiration date labeling.<sup>141</sup> As of now, placing "sell by," "use by," or "best by" dates on food products is completely under the purview of manufacturers pursuant to lenient state requirements.<sup>142</sup> If the federal government does decide to pass regulations, it would somehow have to ensure that that they are not confusing or misleading, something achieved in foreign regulations.

134. U.S. CONST. art. I, § 8, cl. 3.

135. See Theodore P. Labuza & Lynn M. Szybist, *Current Practices and Regulations Regarding Open Dating of Food Products* 23 (The Retail Food Indus. Ctr., Working Paper No. 99-01, 1999).

136. See *id.* at 49.

137. See *id.*

138. See *id.*

139. See 9 C.F.R. § 317.8(b)(32) (2016) (labeling meat products); Poultry Products Inspection Regulations, 9 C.F.R. § 381.129(c) (2016) (labeling poultry products).

140. See 9 C.F.R. § 317.8(b)(32); 9 C.F.R. § 381.129(c).

141. See 9 C.F.R. § 317.8(b)(32); 9 C.F.R. § 381.129(c).

142. See 9 C.F.R. § 317.8(b)(32); 9 C.F.R. § 381.129(c).

### C. International Requirements

Many types of food labels exist in international trade, each serving different purposes. While there is no uniform food-labeling framework, several nations employ food-labeling regimes to label genetically-modified foods, perishable foods, and imported foods.<sup>143</sup> Such labels provide information on essential health and safety concerns and the origin of the product.<sup>144</sup> However, labeling requirements that are different for each country and state hinder fast and efficient international trade, and therefore play a detrimental role in the world economy.<sup>145</sup>

In order to create a global food-labeling regulation that addresses expiration dates, the enacting body must comply with international trade agreements that impose limits on the labels countries can require of manufacturers.<sup>146</sup> Food labels come under the domain of the WTO agreements, specifically, the Agreement on Technical Barriers to Trade (TBT Agreement) and the General Agreement on Tariffs and Trade (GATT).<sup>147</sup> It is important to note that the requirements of the WTO apply to governments as well as private entities.<sup>148</sup>

These two agreements provide the primary legal framework for international trade applicable to expiration date labels. GATT provides the key principles of WTO law on international trade in goods, while the TBT Agreement provides specific requirements and generally prevails in cases of conflict between the two agreements.<sup>149</sup>

The first agreement, the TBT Agreement, aims to ensure that regulatory requirements, including food-labeling requirements, do not create technical barriers to trade.<sup>150</sup> These labeling measures must not be more trade restrictive than necessary to fulfill a "legitimate objective."<sup>151</sup> Therefore, while any nation may promulgate regulations on food, they must ensure that these regulations pursue "legitimate objectives."<sup>152</sup>

The TBT Agreement identifies legitimate objectives as "*inter alia*: national security requirements; the prevention of deceptive practices;

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143. See E. RESEARCH GRP., *supra* note 16, at 1–6 (listing several foreign food-labeling programs).

144. See Margaret Vidar, *International Legal Frameworks for Food Labeling and Consumer Rights*, in INNOVATIONS IN FOOD LABELING 17, 23 (Janice Albert ed., 2010).

145. See *id.*

146. See *id.*

147. See *id.* at 24.

148. See *id.* at 26.

149. See General Interpretive Note, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 154 [hereinafter Marrakesh Agreement].

150. See Vidar, *supra* note 144, at 24.

151. See *id.* at 29.

152. See *id.*

protection of human health or safety, animal or plant life or health, or the environment.”<sup>153</sup> International law cases have confirmed that the words “*inter alia*” in the TBT Agreement expand the scope of the agreement to include legitimate objectives goals not explicitly listed, including market transparency, consumer protection, and fair competition.<sup>154</sup> Additionally, the preamble of the TBT Agreement grants nations the right to take the necessary measures to achieve a number of policy objectives such as the “protection . . . of the environment, or for the prevention of deceptive practices, at the levels it considers appropriate.”<sup>155</sup>

Similarly, the second agreement, GATT, prohibits requirements that can hinder free trade and calls for uniformity in regulatory frameworks by asking nations to use international standards as a basis for preparing technical regulations and standards.<sup>156</sup> Given that all labeling requirements can potentially “hinder free trade,” a national labeling requirement would be permissible if it satisfies one of the exceptions laid out in Article XX of GATT.<sup>157</sup> The article most relevant to expiration date-labeling carves out an exception for those requirements “relating to . . . the prevention of deceptive practices.”<sup>158</sup> While GATT does not allow an exception for restrictive regulations that protect the environment, since the exception exists in the TBT Agreement, such environmentally-friendly restrictions would be allowed as the TBT Agreement would prevail in case of a conflict with the GATT.<sup>159</sup>

The exceptions listed in Article XX of GATT are allowed as long as the resulting measures are not unjustified or arbitrary.<sup>160</sup> Additionally, under Article XX, general principles of international law and other agreements ratified by the parties can also be considered for interpreting the extension of an exception.<sup>161</sup> Case law demonstrates that the exceptions in the TBT Agreement and GATT should be

153. Agreement on Technical Barriers to Trade art. 2.2, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 33 ILM 1144 (1994) [hereinafter TBT Agreement].

154. See Appellate Body Report, *European Communities—Trade Description of Sardines*, WTO doc. WT/DS231/AB/R (adopted Sept. 26, 2002) [hereinafter *Sardines*] (“The Appellate Body [held] . . . that the international standard was not ineffective or inappropriate to fulfil the legitimate objectives pursued by the European Communities (of market transparency, consumer protection and fair competition).”).

155. See Vidar, *supra* note 144, at 30.

156. See *id.* at 25.

157. General Agreement on Tariffs and Trade (GATT), art. XX(d), Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194.

158. Vidar, *supra* note 144, at 29.

159. See Marrakesh Agreement, *supra* note 149.

160. See Vidar, *supra* note 144, at 29.

161. See Appellate Body Report, *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 35, WTO Doc. WT/DS58/AB/RW (adopted Oct. 22, 2001) [hereinafter *United States, Shrimp*].

interpreted in a narrow manner, and when considering a measure under Article XX of GATT, the court must determine “not only whether the measure *on its own* undermines the WTO multilateral trading system, but also whether *such type of measure*, if it were to be adopted by other Members, would threaten the security and predictability of the multilateral trading system.”<sup>162</sup>

Based on this framework, an expiration date-labeling system that manages to champion a legitimate objective should survive a challenge in the WTO. In order to survive, a model regulation would need to convince reviewing courts that under the TBT Agreement, the regulation is intended for the “protection . . . of the environment, or for the prevention of deceptive practices.”<sup>163</sup> This would be a fairly simple process; even if the WTO assesses whether food-labeling regulations would “threaten the security and predictability of the multilateral trading system,” they are likely to uphold a regulation that treats domestic and foreign manufacturers similarly.<sup>164</sup> This position is bolstered by the fact that the WTO has upheld country of origin labels as valid under the TBT Agreement.<sup>165</sup>

#### D. *Private Environmental Governance*

While the traditional approach to environmental governance is to default to government intervention, notable scholarship advocates for the use of private actors in regulating the actions of industry using various incentives to encourage—and social sanctions to discourage—certain behavior.<sup>166</sup> Private governance has been defined as the “rules and structures by which individuals, communities, firms, civic organizations, and other entities govern their interests without the direct involvement of the state or its subsidiaries.”<sup>167</sup> The argument in favor of private environmental governance is strengthened by the fact that no major federal environmental statute has been enacted since the Clean Air Act Amendments of 1990.<sup>168</sup>

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162. Vidar, *supra* note 144, at 29; United States, *Shrimp*, *supra* note 161 (“[A] measure should be designed in such a manner that there is sufficient flexibility to take into account the specific conditions prevailing in *any* exporting Member.”).

163. Vidar, *supra* note 144, at 30.

164. See generally Appellate Body Report, *United States – Certain Country of Origin Labeling (COOL) Requirements*, WTO Doc. WT/DS384/AB/RW (adopted Dec. 7, 2015) [hereinafter Appellate Body Report, *COOL*].

165. See *id.* ¶ 6.1 (“The compliance panel determined that the complainants [against labeling] had not made a *prima facie* case that the amended COOL measure is more trade restrictive than necessary within the meaning of Article 2.2 of the TBT Agreement.”).

166. See Michael P. Vandenbergh, *Private Environmental Governance*, 99 CORNELL L. REV. 129, 137 (2013).

167. See *id.* at 147.

168. See *id.* at 131.

As noted previously, the most prominent private environmental governance efforts in this field include the Food Marketing Institute's support for a voluntary "sell by" date accompanied by "best if used by" information, and the National Food Processors Association's harmonized date-labeling program for refrigerated and frozen foods.<sup>169</sup> Large retailers like Walmart have instituted supply-chain contracting to create a date-labeling practice for products sold in their stores, which requires its suppliers to place a "best if used by" date on all food.<sup>170</sup> Furthermore, wiser shopping, including meal planning and grocery lists, can combat consumers' financial losses and help lower food waste.<sup>171</sup>

However, the present problem of conflicting state, local, and international laws cannot adequately be addressed by private environmental governance. The above-cited examples of private environmental governance fail to address the fundamental issue of uniformity amongst labeling regimes, and thereby lose the cost-saving benefits resulting from such a regulatory approach. Private environmental governance can be a valuable tool to address the issues raised by common pool resources in the face of government logjam.<sup>172</sup> However, private environmental governance is not a substitute for command and control environmental regulation, and in a case like this where an entirely new statute would not be necessary—only informal rulemaking in the context of the United States—uniformity can be achieved with relatively little political cost.

## V. THE MODEL SOLUTION

A model expiration date-labeling regulation, borrowing from successful experiments in other nations, should include five key characteristics: (1) a "sell by" date that is hidden from consumers to reduce the likelihood of confusion with multiple visible dates; (2) food storage information to allow consumers to properly store foods to prevent early spoilage; (3) a "use by" date that indicates when, if proper storage techniques are followed, food would be expected to spoil; (4) a country of origin indicator to allow consumers to identify foods in the event of a recall; and (5) a standardized location on pre-packaged food goods for such information to appear, similar to nutrition labeling.

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169. See *id.*

170. See LEIB ET AL., *supra* note 20, at 16.

171. See *id.* at 27.

172. See Vandenberg, *supra* note 166, at 141 (defining the common pool resources problem as one where individuals and firms gain all of the advantages of using a resource but share the costs and thus have incentives to overexploit the resource).



### A. Food-Labeling Regime

As stated earlier, the federal government's authority to regulate food by requiring food labels is virtually unassailable. The Constitution's Commerce Clause and Necessary and Proper Clause further allow Congress to regulate food labeling and to delegate such power to agencies with instructions on the administration.<sup>173</sup> Although Congress has not explicitly instructed the FDA to implement a national date-labeling regime, it has delegated general authority to the agency to ensure food safety and to protect consumers from deceptive or misleading food package information.<sup>174</sup> With the exceptions of meat, poultry, and some fish, Congress has given the FDA statutory authority to regulate all food safety under the FDCA, the Nutritional Labeling and Education Act of 1990, the Fair Packaging and Labeling Act of 1966, the Infant Formula Act of 1980, and the Food Safety Modernization Act of 2011.<sup>175</sup> The FDCA is the primary source of authority for the federal government to pass regulations mandating expiration dates on food products. The agency could choose to promulgate a rule regulating expiration dates, and, barring procedural and arbitrariness challenges, would likely be successful in passing and implementing such regulation.

Industry logistics require the use of a "sell by" date to indicate the date by which retailers should sell the product.<sup>176</sup> However, "sell by" dates offer consumers no useful guidance once they have purchased the product.<sup>177</sup> Therefore, "sell by" date labels used for inventory purposes should be hidden from consumers—who often mistake them for expiration dates.<sup>178</sup> Under a model food-labeling regulation, products would only display dates that are intended to communicate to the consumer. In order to limit complications, bar-coded or QR coded "sell by" dates could allow retailers to keep track of the dates by which they must make a sale while preventing consumers from being confused by several dates in close proximity with no information on which label to rely on in making purchasing and consumption decisions.

A model rule would also require food goods to provide relevant food storage instructions and food spoilage indicators. While not strictly date labeling, such instructions are necessary for accurately interpreting expiration dates on food. Taking a cue from UK food-

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173. *How do the activities of USDA's Food Safety Inspection Service differ from the activities of FDA's Center for Food Safety and Applied Nutrition?*, FDA, <http://www.fda.gov/AboutFDA/Transparency/Basics/ucm242648.htm> (last visited Mar. 1, 2016) [<https://perma.cc/JLD8-B2EM>] (archived Oct. 2, 2016).

174. *See id.*

175. *See* LEIB ET AL., *supra* note 20, at 9.

176. *See* Lenhart et al., *supra* note 62, at 76.

177. *See id.* at 70.

178. *See id.*

labeling regulations, which require labeling of “any storage conditions which need to be observed,” a model law should provide for instructions that inform consumers about intended storage temperatures, humidity, and other such conditions.<sup>179</sup> Similarly, information regarding spoilage indicators specific to the food items, such as discoloration, changes in smell, and changes in taste, could also be helpful in allowing consumers to better interpret expiration dates. No labeling system can definitively predict when a particular food product will be unsafe to eat, but such information allows consumers to exercise judgment and make safer choices.

A successful food-labeling regulation would require “use by” dates to be expressed in the form of a day, month, and year for perishable items and a month and a year for non-perishable items. The British food-labeling regulations require food manufacturers to express expiration dates in terms either of a day and a month, or of a day, a month, and a year.<sup>180</sup> However, the British regulations fail to provide any direction as to when either dating system should be employed.<sup>181</sup> A more pragmatic alternative exists in the Australia New Zealand Food Standards Code, which requires food goods to state the day and the month for products with a shelf life of less than three months and the month and the year for products with a shelf life greater than three months.<sup>182</sup>

A model regulation would also provide for the nation of origin or place of provenance for meat products. Given the number of prion illnesses—like Bovine Spongiform Encephalopathy, or mad cow disease—that were linked to specific countries, consumers would be able to make informed choices about the food they eat if goods were labeled with the nation of origin. Currently, recall initiatives are more comprehensive than they need to be due to the absence of some form of place of provenance labeling on food. The place of provenance could be expressed as the animal’s place of birth, place of rearing, or place of slaughter to allow for a more accurate representation of the origin of the food. Expiration date labels could be tailored towards reducing the amount of waste caused by recalls by providing a place of provenance. Such a requirement has already been upheld by the WTO, and would likely be the least controversial aspect of any food-labeling regulation.<sup>183</sup>

Finally, a model regulation would provide for a standardized location for expiration dates. While 62 percent of Americans look for expiration dates before purchasing, and 65 percent verify expiration

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179. See The Food Labeling Regulations 1996, *supra* note 102, at art. 21(1)(b).

180. See *id.* at 21(2).

181. See *id.*

182. See *Australia New Zealand Act 1991* at s 1.2.5—5(4)(a)(1).

183. See *Sardines*, *supra* note 153, at ¶ 35.

dates before every use, the expiration dates do not have a uniform location.<sup>184</sup> To promote safe food handling, a uniform location for the expiration date would allow consumers to verify the intended date of disposal with ease.

Such an expiration date-labeling system would possess a legitimate objective under the TBT Agreement and would likely survive a challenge in the WTO. In order to survive, a model regulation would need to convince reviewing courts that the regulation is intended for the “protection . . . of the environment, or for the prevention of deceptive practices.”<sup>185</sup> This would be a fairly simple process for such a labeling regime as it focuses so heavily on the epidemiological and environmental effects of poor labeling.<sup>186</sup> Since the WTO has upheld country of origin labels as valid under the TBT Agreement, such a labeling framework should also be deemed sufficient.<sup>187</sup>

### B. Viability

A problem that still has to be considered is whether, and to what extent, food waste reduction will be attained by way of standardizing expiration date labels. Globally, roughly 75 percent of consumers look for expiration dates before purchasing a food product and 78 percent look for expiration dates before consuming food, so it is likely that improving expiration date labeling would have an appreciable impact on limiting food waste.<sup>188</sup>

Confusion over date labeling accounts for an estimated 20 percent of avoidable household food waste.<sup>189</sup> Behavioral plasticity, or the proportion of current non-adopters that could be induced to take action, is an important way to assess the effectiveness of an unimplemented intervention. Behavioral plasticity would need to be tested before such a program could be deemed more effective than any alternatives.<sup>190</sup> However, given the relatively low administrative cost to governments to implement such a policy, and given that every developed country other than the United States already has an expiration date-labeling program, the United States could adopt a labeling system that

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184. See Karakaya & Harcar, *A Cross-Cultural Exploration of Attitudes Toward Product Expiration Dates*, 22 *PSYCHOL. & MARKETING* 353, 363 (2005).

185. See Vidar, *supra* note 144, at 30.

186. See generally Appellate Body Report, *COOL*, *supra* note 164.

187. See *id.* at ¶ 6.1 (“The compliance panel determined that the complainants [against labeling] had not made a *prima facie* case that the amended COOL measure is more trade restrictive than necessary within the meaning of Article 2.2 of the TBT Agreement.”).

188. WASTE AND RESOURCES ACTION PROGRAMME, *CONSUMER INSIGHT: DATE LABELS AND STORAGE* 112 (2011), <http://www.wrap.org.uk/sites/files/wrap/Technical%20report%20dates.pdf> [<https://perma.cc/8DDX-WUZU>] (archived Oct. 2, 2016).

189. *Id.* at 9.

190. See Dietz et al., *supra* note 1, at 18452.

comports with a global regime using powers the FDA already possesses without having to enter into a treaty.

A model program would not face significant hindrance from political free market concerns of manufacturers, even though uniform labeling might raise printing costs for some manufacturers.<sup>191</sup> A number of factors could mitigate any opposition such a program faces in the United States: the cost savings on the part of manufacturers that would be able to better utilize QR coded “sell by” dates; the fact that any perishable products and non-perishable products meant for export already comport with European standards; and the consumer counter weight pushing for clearer expiration date labeling. Furthermore, given that the current legislative climate inside Congress presents considerable barriers to passing or ratifying climate mitigation legislation or treaties, expiration date labeling would be a low-hanging fruit that could be readily achieved through the agency rule-making process.

Some industry experts have suggested that a nation-wide framework regulating expiration dates would cause increases in costs.<sup>192</sup> Specifically, costs associated with printing barcodes on products to indicate “sell by” dates to retailers as opposed to actual dates are a potential argument against such a program. However, substantial cost savings would result from a uniform global expiration date-labeling system.<sup>193</sup> Food manufacturers would no longer need to run parallel packaging operations for products entering each jurisdiction in order to comply with divergent state and national laws.<sup>194</sup> Streamlining open dating laws across the nation, so that the food industry could adapt to a single legal regime instead of trying to comply with the proliferation of inconsistent state laws, would create considerable cost savings that can improve productivity and efficiency in the food industry. Since retailers and food manufacturers face increased expectations from consumers to address environmental concerns, improving the expiration date-labeling program currently in place may provide an opportunity for the food industry to reap social dividends by appealing to consumer concerns while simultaneously creating positive environmental, epidemiological, and social change.<sup>195</sup>

Food companies may also be able to benefit financially by implementing expiration date-based pricing models that employ “cause-related marketing” strategies designed for consumers

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191. See E. RESEARCH GRP., *supra* note 16, at 3–5.

192. See LEIB ET AL., *supra* note 20, at 7.

193. See *id.* (noting that inconsistencies in food-labeling regulations could inflate food prices).

194. See *id.* (discussing federal regulation’s ability to improve productivity and efficiency in the food industry).

195. *Id.* at 16.

interested in reducing food waste.<sup>196</sup> Such strategies have made consumers more likely to purchase food items close to the expiration date.<sup>197</sup> Manufacturers and retailers often employ such cause-related marketing promotions by making minimal donations to nonprofit partners if consumers buy a certain product, by donating a percentage of profits to charitable causes, or by decreasing the price of a product as an incentive to purchase it and prevent waste.<sup>198</sup> Instituting an expiration date would in fact drive sales of products that are past peak quality, which would otherwise not be sold due to depreciating physical characteristics. Therefore, framing such expiration date-based pricing as a green practice generates positive brand perceptions in consumers whilst incentivizing the sale of food that would otherwise go unpurchased.<sup>199</sup>

## VI. CONCLUSION

The failures of the expiration date-labeling regulations promulgated in much of the world make an international food expiration date-labeling regulation a necessity in tackling food waste and ensuring food safety. A number of domestic and international attempts have been made to address these issues. While some were markedly better than others, none were complete in their provisions. An international date-labeling regulation, drawing on the successes of European and Australasian programs, would adequately ensure public health and a reduction in food waste throughout the world.

However, such a program will not be able to eliminate food waste entirely without a change in the purchasing and consuming habits of the American people. Americans can help reduce waste by learning about when food goes bad, buying visually imperfect but safe food products, and properly storing and adequately cooking food.<sup>200</sup> As stated earlier, families in the United States contribute to food waste by throwing away about 160 billion pounds of the food and drinks they buy.<sup>201</sup> Consumers can also restrict how much food they purchase from the store. Even though many of the changes that consumers can make are simple and seen as common sense to most, they are still not being done, and food waste has become a massive global problem that is

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196. See Aristeidis Theotokis et al., *Effects of Expiration Date-Based Pricing on Brand Image Perceptions*, 88 J. RETAILING 72, 82 (2012) (discussing the impacts of expiration date-based pricing on consumer behavior when framed in terms of waste reduction).

197. See *id.* at 84 (highlighting the methods noted above and others to frame expiration date-based pricing).

198. See *id.* at 81.

199. See *id.*

200. See LEIB ET AL., *supra* note 20, at 27.

201. See Hall et al., *supra* note 10.

having negative ethical, environmental, and economic implications. Legislatures and agencies across the globe can take an easy step in addressing the problems of climate change and food waste by instituting food-labeling programs, while spending little and imposing few costs on the industry and their economies.

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