

# The Dating Game:

How Confusing Food Date Labels  
Lead to Food Waste in America



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## **About the Harvard Law School Food Law and Policy Clinic**

The Harvard Food Law and Policy Clinic, a division of the Center for Health Law and Policy Innovation, is an experiential teaching program of Harvard Law School that links law students with opportunities to serve clients and communities grappling with various food law and policy issues. The Clinic strives to increase access to healthy foods, prevent diet-related diseases, and assist small and sustainable farmers and producers in participating in local food markets. For more information, visit <http://blogs.law.harvard.edu/foodpolicyinitiative/> or follow on Twitter @HarvardFLPC.

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## EXECUTIVE SUMMARY

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The waste of edible food by consumers, retailers, and manufacturers poses a significant burden to the American food system. Wasted food costs consumers and industry money; squanders important natural resources that are used to grow, process, distribute, and store America's food supply; and represents a missed opportunity to feed the millions of food insecure households in the United States that are struggling to access healthy, affordable food. Misinterpretation of the date labels on foods is a key factor leading to this waste.



PHOTO: WWW.FOODWASTEMOVIE.COM

Improving date labeling policies and practices can decrease consumer confusion, which will not only reduce food waste, but also improve food safety. Date labels on food come in a dizzying variety of forms including “use by,” “best before,” “sell by,” and “enjoy by” dates, yet these simple markers are both poorly understood and surprisingly under-regulated, such that their meanings and timeframes are generally not defined in law. Because regulators, industry players, and citizens have become accustomed to seeing date labels on many food products over time, policymakers have not asked important questions about the date labeling

system, and there has been a dearth of rigorous policy analyses of how these labels affect consumers' choices surrounding purchasing and discarding food products.

This policy brief examines the historical impetus for placing dates on food—namely a desire to indicate products' freshness—and the ways in which the system has failed to meet this goal, while creating a range of ancillary problems. Relevant federal laws and authorities are described along with a review of the legislative history on this topic, and a comparison of state laws related to food date labeling is provided. The paper then describes why and how date labels

contribute to the waste of edible food in the United States and explains specifically how:

- The lack of binding federal standards, and the resultant state and local variability in date labeling rules, has led to a proliferation of diverse and inconsistent date labeling practices in the food industry. Such inconsistency exists on multiple levels, including whether manufacturers affix a date label in the first place, how they choose which label phrase to apply, varying meanings for the same phrase, and the wide range of methods by which the date on a product is determined. The result is that consumers cannot rely on the dates on food to consistently have the same meaning.
- This convoluted system is not achieving what date labeling was historically designed to do—provide indicators of freshness. Rather, it creates confusion and leads many consumers to believe, mistakenly, that date labels are signals of a food’s microbial safety, which unduly downplays the importance of more pertinent food safety indicators.
- This confusion also leads to considerable amounts of avoidable food waste as the mistaken belief that past-date foods are categorically unsuitable for consumption causes consumers to discard food prematurely.
- Inconsistent date labeling policies and practices harm the interests of manufacturers and retailers by creating increased compliance burdens and food waste at the manufacturer/retail level.
- Date labeling practices hinder food recovery and redistribution efforts by making the handling of past-date foods administratively and legally complex.

After analyzing these five core problems with the contemporary date labeling regime, this report will introduce recommendations on how to begin to remedy the food waste and food safety issues related to date labeling, by creating a system in which date labels more clearly communicate information. Recommendations are broken into two sections: the first section proposes key changes to the date labeling system across the United States, and the second section identifies relevant stakeholders and describes actions that each should take to address the issue.

In brief, the recommendations are as follows:

## I. STANDARDIZE AND CLARIFY THE FOOD DATE LABELING SYSTEM ACROSS THE UNITED STATES

1. **Make “sell by” dates invisible to the consumer:** “Sell by” dates generate confusion and offer consumers no useful guidance once they have brought their purchases home. Therefore, “sell by” and other date labels that are used for stock control by retailers should be made invisible to consumers. Products should only display dates that are intended to communicate to the consumer.
2. **Establish a reliable, coherent, and uniform consumer-facing dating system:** The following five recommendations on how to standardize and clarify

date labels will help establish a more effective system of consumer-facing dates that consumers can understand and trust. The system should be consistent across products to the extent it makes sense.

- **Establish standard, clear language for both quality-based and safety-based date labels:** The language used before dates on food products should be clarified and standardized to better inform consumers of the meaning of different dates. The words used should (1) be uniform for a particular meaning across the country and across products; (2) be unambiguous in the information they convey; and (3) clearly delineate between safety-based and quality-based dates.
- **Include “freeze by” dates and freezing information where applicable:** Promote the use of “freeze by” dates on perishable food products to help raise consumer awareness of the benefits of freezing foods and the abundance of food products that can be successfully frozen in order to extend shelf life.
- **Remove or replace quality-based dates on non-perishable, shelf-stable products:** Removing “best before” or other quality dates from shelf-stable, non-perishable foods for which safety is not a concern would reduce waste of these products and increase the weight given to labels placed on products that do have safety concerns. Some type of date may still be useful, such as an indication of shelf life after opening (e.g. “Best within XX days of opening”) or the date on which the product was packed (e.g., “Maximum quality XX months/years after pack date”).
- **Ensure date labels are clearly and predictably located on packages:** Consumers should be able to easily locate and understand date labeling information on packages, perhaps through the use of a standard “safe handling” information box, akin to the Nutrition Facts panel.



- **Employ more transparent methods for selecting dates:** Create a set of best practices that manufacturers and retailers can use to determine date labels for products, and consumers can learn about if interested.
3. **Increase the use of safe handling instructions and “smart labels”:** Provide clear, pertinent food safety information alongside date labels. This could include additional phrases, QR codes that allow consumers to scan for more information, or “smart labels” like time-temperature indicators.

## II. THE ROLE OF INDUSTRY, GOVERNMENT AND CONSUMERS

Collaboration amongst different stakeholders and entities is necessary to standardize and clarify the current date labeling regime. Each stakeholder has a role to play to improve the system. Three groups of stakeholders have been identified; solutions targeted at each group include:

1. **Food Industry Actors:** Industry actors can take meaningful steps to reduce date label confusion, reduce food waste, and improve consumer safety by:
  - **Converting** to a system which adopts the recommended changes above: making “sell by” information invisible to consumers; establishing a standardized, easily understandable consumer-facing dating system; and providing more safe handling information;
  - **selling** or donating near-expiration or expired products; and
  - **educating** consumers on the meaning of date labels and on safe food handling.
2. **Government:** Congress, federal administrative agencies, state legislatures, and state agencies should work towards a system of date labeling that is more standardized, more easily understood by consumers, and less arbitrary. The federal Food and Drug Administration and U.S. Department of Agriculture have existing authority to regulate misleading labels, and should use this authority to reduce confusion around date labeling. Otherwise, Congress can act to create overarching federal legislation. Regardless of whether a federal law is passed, existing federal guidance should be strengthened and streamlined so that states following such guidance will begin to implement more similar state laws and regulations.
3. **Consumers and Consumer-Facing Agencies and Organizations:** Increased consumer education—covering everything from the meaning of date labels, to the importance of proper refrigeration temperature, to strategies on how to determine whether food is safe and wholesome to eat—will be crucial regardless of whether policymakers decide to implement changes to the current date labeling regime or to maintain the status quo. Federal, state, and local agencies and organizations can conduct consumer outreach and education to build awareness of proper food safety, handling, and storage, as well as the high rates of food waste due to date label confusion and the detrimental effects of such waste. Consumers can act now by educating themselves as well.

Revising the convoluted and ineffective system of date labels is one of the most straightforward ways we can address the rising rates wasted food, while providing a service to consumers by improving both food safety outcomes and economic impacts.

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# INTRODUCTION

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America is fixated on food—we have television channels devoted to it, competitions revolving around it, and every manner of book, blog, and newspaper column revering it. For a country so obsessed with food, it is alarming how much of it Americans throw away, despite the serious ethical, environmental, and financial implications of this waste. An estimated 40 percent of food in the United States goes uneaten,<sup>1</sup> and according to even the most conservative estimates, Americans waste 160 billion pounds of food each year.<sup>2</sup> The rate of food loss in the United States far exceeds that of much of the rest of the world, with the average American consumer wasting 10 times as much as food as the average consumer in Southeast Asia.<sup>3</sup> One key contributor to wasting food is confusion around food expiration dates.

Despite the high rate of food waste, almost 15 percent of U.S. households were food insecure at some point in 2011.<sup>4</sup> It has been estimated that redistributing 30 percent of all the food lost in the United States could feed every food insecure American their *total* diet.<sup>5</sup>

Wasted food has serious environmental consequences as well.<sup>6</sup> When food is wasted, all of the resources used to produce, store, transport, and handle that food—including arable land, labor, energy, water, chemicals, and oil—are also wasted.<sup>7</sup> A study by McKinsey & Company projected that roughly 100 million acres of cropland could be saved if developed countries reduced consumer food waste by 30 percent.<sup>8</sup> It is estimated that approximately 25 percent of America's freshwater use goes into the production of wasted food.<sup>9</sup>

Compounding these environmental and ethical harms are the financial losses incurred by American families when enough food to fill the Rose Bowl is wasted *each day* in the United States.<sup>10</sup> At the consumer level, according to one calculation, food waste costs the average American family of four \$1365-2275 per year.<sup>11</sup>

Those studying the problem of food waste in the United States and abroad have identified confusion over food date labeling as a major contributing factor at both the industry and the consumer level.<sup>12</sup> Research from the United Kingdom support a connection between the misinterpretation of date labels and wasted food,<sup>13</sup> and a study conducted by the Bio Intelligence Service for the European Commission identified the standardization of food date labeling as an important policy intervention to reduce food waste.<sup>14</sup>

This policy brief explores the relationship between food waste, food safety, and the regulatory systems that govern, or fail to govern, food date labeling practices in the United States. It will describe how the contemporary date labeling regime creates confusion among consumers, obstacles for food service providers, and inefficiencies in the food industry, ultimately contributing to and exacerbating the waste of edible food in this country.

The brief will begin by tracing the history of food date labeling in the United States and then proceed to analyze the current labeling landscape at the federal, state, local, and industry levels. Drawing on the results of a comprehensive literature review, a 50-state study of current date labeling regulations, and data from interviews with experts in government, industry, and food science, this paper will outline key problems with the contemporary date labeling regime: its disorienting effects on consumers, its failure to convey important food safety information (despite the appearance of doing so), its negative economic impacts across the food sector, and its hindrance of food recovery initiatives. All of these factors lead directly to food waste in American homes and across the supply chain, throughout production, distribution, retail, food service, and home consumption.

Based on this analysis, the brief will conclude by outlining recommendations for how different stakeholders can take action to improve current practices and foster policy changes to begin to remedy the negative impacts of date labeling on food waste in the United States.

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## CHAPTER 1: HISTORY OF U.S. DATE LABELING: A PIECEMEAL RESPONSE TO CONSUMER INTEREST IN DATE LABELS

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The urbanization of the United States divorced most consumers from the creation of their food—these consumers began purchasing the bulk of their food, rather than growing it themselves, and had little personal knowledge concerning the freshness and shelf life of their purchases.<sup>15</sup> As Americans began to buy more processed or packaged foods, this knowledge deficit forced consumers to rely on assurances from retailers that the foods they were purchasing were fresh, yet these assurances often proved insufficient to fully dispel consumer fears.<sup>16</sup>

By the 1970's, consumer concern surrounding the freshness of food crystallized,<sup>17</sup> and diverse stakeholders within the food industry, government, and public interest sector began to seriously explore what is known as open dating in response to consumer unease. Open dating uses a date label that includes a month, day, and year in a format clearly evident to the consumer.<sup>18</sup> Out of a nationwide survey of 250,000 shoppers published in 1975, 89 percent of respondents favored this kind of dating system.<sup>19</sup> According to another survey, 95 percent of respondents listed open dating as the “most useful” consumer service for addressing product freshness concerns.<sup>20</sup> “Open” dating differed from the long-established industry practice of “closed” dating, in which manufacturers and retailers used symbols or numerical codes that were undecipherable to consumers to manage their inventory and stock rotation,<sup>21</sup> without any intention of relaying that information directly to consumers.<sup>22</sup> Throughout the 1970s, many supermarkets voluntarily adopted open dating systems in response to mounting consumer interest.<sup>23</sup>

Government actors also began to react to rising consumer demand for more objective, accessible indicators of product freshness and quality during this period. By 1973, 10 state governments had adopted laws or regulations mandating open dating for certain classes of food products.<sup>24</sup> The federal government also began increasing its engagement with the issue of date labeling by supporting research on this topic. In 1975, the General Accounting Office (now the Government Accountability Office or GAO) issued a report to Congress focusing on “problems with stale or spoiled foods” and advocating a uniform date labeling system to address consumer concerns.<sup>25</sup> In 1979, the Office of Technology Assessment (OTA), which existed as an office of the U.S. Congress from 1972 to 1995, was assisted by a task force of consumer representatives, retailers, processors, wholesalers, scientific experts, and government officials in publishing a comprehensive report for the Senate on open dating to address “[consumer] concern over the freshness of

food.”<sup>26</sup> Critically, even in the 1970s supporters of open dating recognized that assuring the microbiological safety of food could not be achieved using date labels.<sup>27</sup> Indeed, the OTA report flatly stated that “there is little or no benefit derived from open dating in terms of improved microbiological safety.”<sup>28</sup> An analysis of the intersection between date labels and food safety will be discussed at length in the sections below.

Food labeling received the concerted attention of Congress during this time period, yet legislation on date labeling ultimately was not passed.<sup>29</sup> Congressional action could have regulated date labels across the country in a predictable, empirically-grounded way and would have standardized industry practices and preempted widespread variation in state regulations. Members of Congress recognized these benefits, and during the 1970s and 1980s introduced several legislative proposals to institute a uniform open code dating system on a nationwide scale, mostly via amendments to the federal Food, Drug, and Cosmetic Act.<sup>30</sup> At least 10 bills were introduced by the 93rd Congress (1973-1975) alone.<sup>31</sup> The 1975 GAO report encouraged Congress to adopt one of these proposed amendments.<sup>32</sup> The Food and Drug Administration (FDA) also welcomed the potential for an explicit statutory mandate over date labeling, even while maintaining that it already had authority to regulate date labeling under its existing powers to control adulteration and misbranding.<sup>33</sup> However, none of the federal legislative efforts gained enough momentum to pass into law and create a uniform, nationwide system.<sup>34</sup>

A variety of stakeholders shaped the debate about open dating legislation. In addition to the role consumers played in demanding more information about their products, various food industry actors also played a role. At first, supermarket chains opposed such regulation because they believed that “open dating would add to the price of the food, since shoppers would pick over the packages on the supermarket shelves, selecting only the newest,”<sup>35</sup> causing increased losses of outdated, but edible food, and thus forcing supermarkets to raise prices in order to



account for the discarded products.<sup>36</sup> However, after this initial opposition, supermarkets began to use open dates voluntarily in response to consumer demand, and even advertised the new practice as a promotional strategy to attract customers.<sup>37</sup> Then, when Congress tried to pass legislation that would regulate open dating, spokespersons from the National Association of Food Chains argued before Congress that the industry was already voluntarily spending millions of dollars on food labeling and that the additional federal requirements would simply impose higher costs and “deter [members of the food chains] from adopting further voluntary, progressive programs in the future.”<sup>38</sup>

Policymakers were also discouraged from coming up with a standard federal model because of the difficulties of trying to harmonize the “differences in views on type of date, explanation of date, and foods covered.”<sup>39</sup> Further, food lawyers—even those advocating for a uniform date labeling system—questioned whether Congress was “willing to pass a strong preemption provision” that would invalidate all state laws, and thus successfully achieve a uniform national date labeling regime consistently applied in all states.<sup>40</sup>

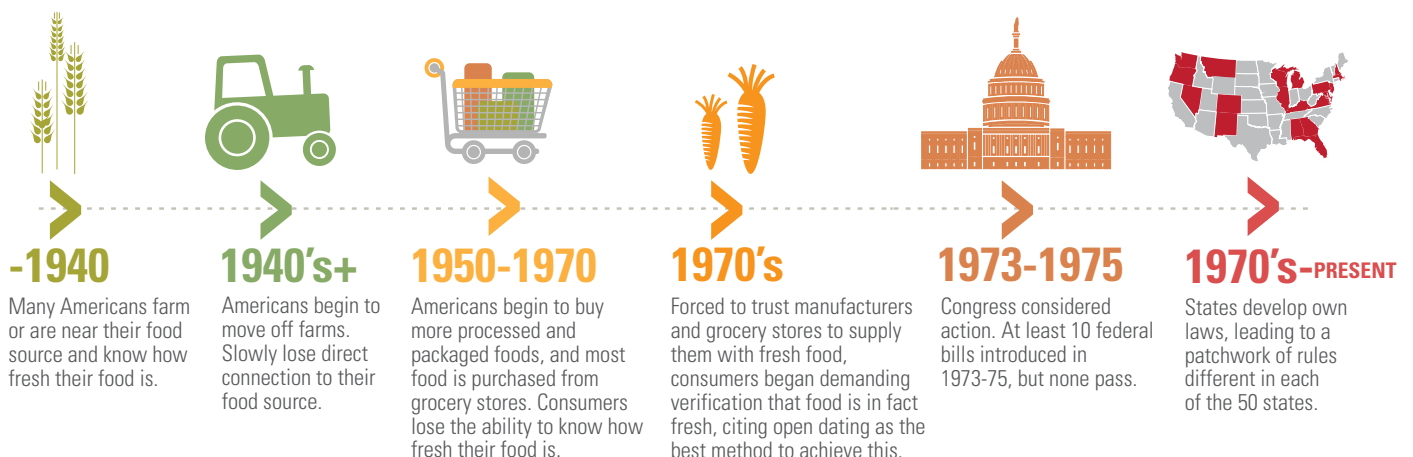
Due to the lack of success of open dating legislation, the 1970s saw the uneven and piecemeal creation of an American date labeling regime, as state governments and industry actors responded to consumers’ interest in fresh, unspoiled food in a range of ways, but with no unifying strategy at the federal level.<sup>41</sup> The resulting inconsistencies across state and local laws quickly began to create consumer confusion<sup>42</sup> and industry distress<sup>43</sup> which did not go unnoticed, even by early observers. Food lawyers recognized that the proliferation of inconsistent state laws could affect interstate commerce, and hinted at the idea that it could inflate the price of food, reiterating the initial concern raised by supermarket chains that open labeling would lead to food waste and higher food prices.<sup>44</sup> For example, costs would go up if food companies needed to use separate packaging lines for products entering each jurisdiction in order to comply with divergent state laws.<sup>45</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, provided then and continues to provide a strong rationale for Congress to pass legislation that can improve productivity and efficiency in the food industry. This would also ensure that consumers are provided consistent and coherent messages from the dates they are seeing.<sup>46</sup> The

GAO concluded its discussion of open code dating in 1975 by warning that failure to implement a national system would “add to confusion, because as open dating is used on more products, it would continue letting each manufacturer, retailer, or State choose its own dating system.”<sup>47</sup> Nevertheless, no federal legislation has been passed for more than 40 years and this lack of uniformity persists today, leading to wasteful food practices within the American food system.

After a more than two-decade lapse in federal consideration of these issues, the next move towards a federal date labeling requirement occurred in the late 1990s. In 1999, Congressman Frank Pallone (D-NJ) introduced the National Uniform Food Safety Labeling Act of 1999, which would have required food to bear a date after which the food should no longer be sold “because of diminution of quality, nutrient availability, or safety,” preceded by the words “use by.”<sup>48</sup> The bill was stalled at the House Energy and Commerce Committee and did not pass.

Similarly, in 1999, Congresswoman Nita Lowey (D-NY) introduced the Food Freshness Disclosure Act and reintroduced similar bills in 2001, 2003, 2005, 2007, and 2009.<sup>49</sup> All the bills were referred to the House Energy and Commerce Committee, but none passed out of committee. The bills proposed to amend the Food, Drug, and Cosmetic Act by adding the requirement of applying uniform freshness dates on food. Uniformity would be achieved by requiring that all freshness dates be preceded by the phrase “best if used by.”<sup>50</sup> Foods identified under 21 C.F.R. § 101.9(j) as exempt from the nutritional labeling requirements of the Nutritional Labeling and Education Act (including food products served at restaurants or schools, raw fruits and vegetables, and certain ready-to-eat foods, such as foods sold at bakeries) would also be exempt from this legislation.<sup>51</sup> The bill would require the “manufacturer, packer, or distributor of the food” to select the freshness date based on tests that demonstrate that when consumed, the nutrient quality of the food would still be the same as indicated by the nutrition facts panel.<sup>53</sup> If passed into law, this legislation would be a positive step towards achieving a uniform federal date labeling system, but it could be strengthened in several ways, as detailed by the recommendations included in this report. For example, the new regulation could require affixing a safety-based date with a different standardized term such as “safe if used by” on products that are empirically proven to cause food safety risks rather than requiring a “best if used by” date on all food products.



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## CHAPTER 2: THE CURRENT REGULATORY REGIME

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To understand how the food date labeling system contributes to America's food waste problem, it is essential to review the different legislative and regulatory systems that currently govern date labeling. As discussed above, despite occasional federal interest, no legislation has been passed, and thus federal law generally does not require or regulate the use of date labels.<sup>54</sup> This lack of coordinated action at the federal level increases the complexity of the food labeling regime by causing a regulatory void that states and localities have attempted to fill in various ways, resulting in a tremendously varied set of state and local laws regarding the use of date labels. Industry has also attempted to provide direction, with some food trade associations that don't necessarily help to improve public health creating voluntary guidance on date labeling practices for specific commodities. Because none of these approaches are comprehensive, individual manufacturers and retailers are often left to decide how date labels are actually implemented.<sup>55</sup>



The lack of formal definitions or standardization across date labeling policies and practices is a problem because it gives unreliable signals to consumers. Such inconsistency exists on multiple levels, including *whether* manufacturers affix a date label in the first place, how they choose which label *category* to apply, internal inconsistency *within* each label category due to the lack of formal legal definitions, and variability surrounding *how* the date used on a product is determined. The result is that consumers cannot rely on the dates on food to consistently have the same meaning.

This section analyzes the ways in which these regulatory and industry forces operate and interact with each other. Ironically, despite the original intention of increasing consumer knowledge about their food, date labeling has become a largely incoherent signaling device for consumers. Instead of offering the type of clear and unambiguous information that consumers seek, date labels can and do confuse and mislead them.

### FEDERAL LAW

The scope of federal laws governing food labeling is broad, but does not currently address date labeling with any specificity or consistency. Congress clearly has the power to regulate date labels under the Commerce Clause in the U.S. Constitution, which gives Congress power to regulate products sold in interstate commerce.<sup>56</sup> Using this power, Congress has passed a number of federal statutes that govern labeling of different types of food, with two agencies having the clearest delegation from Congress of authority over



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food labeling: FDA and the U.S. Department of Agriculture (USDA). However, as described in the previous section, because Congress has not successfully passed national date labeling legislation to date, no agencies have been given *explicit* authority to regulate in this realm. The statutes and the provisions that are most relevant to food labeling are discussed below, with excerpts of language from each federal law included in Appendix A.

### **Agency Authority to Regulate Food Labeling and Existing Laws**

Congress has never mandated that FDA or USDA implement a national date labeling regime;<sup>57</sup> however, it has delegated general authority to both agencies to ensure food safety and protect consumers from deceptive or misleading food package information.<sup>58</sup> Both FDA and USDA have the power to regulate food labeling for the foods that fall under their respective purviews. FDA has statutory authority to regulate the safety of all foods with the exception of meat, poultry, and some fish, under the Food, Drug, and Cosmetic Act of 1938, 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>59</sup> On the other hand, USDA has jurisdiction to regulate meat, poultry, and certain egg products, under the Poultry Products Inspection Act of 1957, the Federal Meat Inspection Act of 1906, the Egg Products Inspection Act of 1970, the Perishable Agricultural Commodities Act of 1930, and the Agricultural Marketing Act of 1946.<sup>60</sup> FDA and USDA share jurisdiction over certain products including eggs<sup>61</sup> and fruits and vegetables.<sup>62</sup>

FDA receives broad food labeling authority under several of the Acts mentioned above, with its powers to regulate misbranded foods and misleading labels under the Food, Drug, and Cosmetic Act being the most robust.<sup>63</sup> Since one of the purposes of the Food, Drug, and Cosmetic Act is to protect the interest of consumers, the Act prohibits the

“adulteration or misbranding of any food.”<sup>64</sup> Food under FDA’s jurisdiction may be considered misbranded if the food’s label is false or misleading “in any particular.”<sup>65</sup> USDA also has the power to regulate misleading labels for all products under its purview, and has vested the Food Safety and Inspection Service (FSIS), an enforcement agency within USDA, with this authority.<sup>66</sup> Under the Acts mentioned above, USDA has broad authority to promulgate regulations to protect consumers and ensure that products specifically regulated under each Act are not misbranded.<sup>67</sup> Similar to the Food, Drug, and Cosmetic Act, under the provisions of these statutes, labels are considered misbranded if they are false or misleading “in any particular.”<sup>68</sup> As explained throughout the report, the current date label system leads to consumer confusion and the waste of edible food.

If FDA and/or USDA agree that date labels are “misleading,” they could make a case that their existing authority should be interpreted to allow them to regulate date labeling as a form of misbranding of food items, without any additional action on the part of Congress.

Importantly, these laws also require that FDA and USDA work together in promulgating consistent regulations. For example, under both the Poultry Products Inspection Act and the Federal Meat Inspection Act, USDA must prescribe regulations for labels that are consistent with the Food, Drug, and Cosmetic Act labeling standards.<sup>69</sup> Further, the Egg Products Inspection Act provides that the two agencies must cooperate with one another in order to decrease the burden on interstate commerce in labeling of eggs, because packages that are not properly labeled could “be sold at lower prices and compete unfairly with the wholesome, not adulterated, and properly labeled and packaged products.”<sup>70</sup> In the past, FDA and USDA have issued joint notices about the regulation of eggs, specifically requesting comments on whether the varying practices for placing expiration dates on egg products would violate the misbranding provisions of the Food, Drug, and Cosmetic Act and “be misleading to consumers given their expectations.”<sup>71</sup> These are some examples of how the two agencies interact with each other and share responsibility to ensure consistency across their respective regulations. FDA and USDA should similarly work together to promulgate regulations that address the misleading impact of date labels by ensuring that date labels are standardized across food products.

Other government agencies also share the role of protecting the interest of consumers from deceptive practices. In particular, the Federal Trade Commission (FTC) has food labeling authority under the Federal Trade Commission Act of 1914 if action is needed to prevent “unfair methods of competition” or “unfair or deceptive

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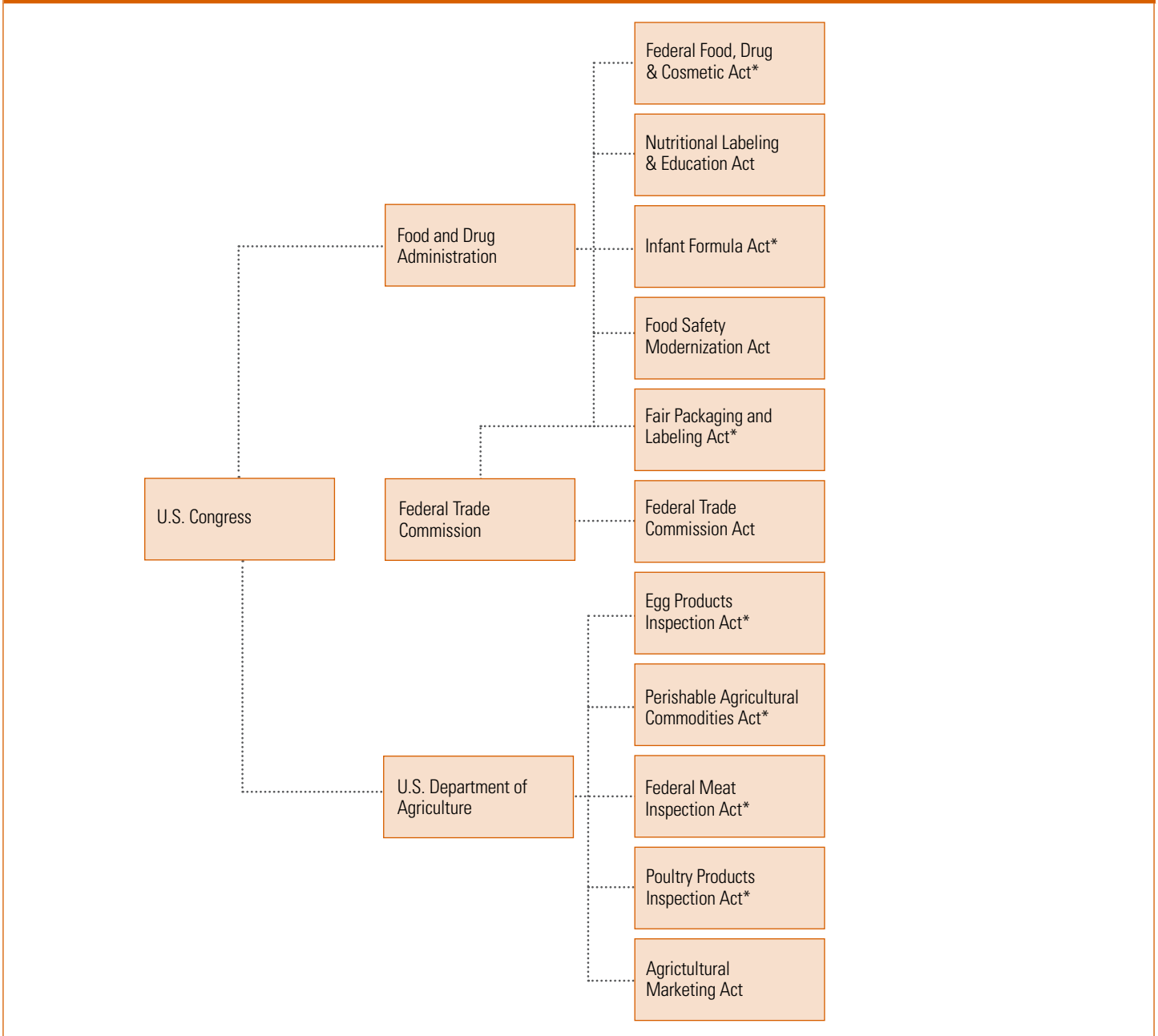
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acts or practices in or affecting commerce.”<sup>72</sup> Further, FDA and FTC have joint authority under the Fair Packaging and Labeling Act to create regulations “necessary to prevent the deception of consumers” for any consumer commodities, including food.<sup>73</sup> In response to their shared authority under Fair Packaging and Labeling Act, FDA and FTC created a memorandum of understanding that gives FDA the authority to regulate food labeling and FTC the authority to regulate food advertising in order to prevent misleading information from reaching the consumer.<sup>74</sup>

Similar to any coordinated response by FDA and USDA, the shared responsibility already utilized by FDA and FTC could be a model for a joint response to date labeling regulation, showcasing a way for agencies to work together to streamline date labeling practices across different foods.

Figure 1 below includes an illustration of the federal agencies and Acts that govern food labeling.

**Figure 1: Congressional and Agency Authority in the Federal Food Labeling System\*\***



\* Acts which give authority pertaining to date labeling on foods.

\*\* Note that FDA may have additional enforcement authority shared with other agencies with regard to food safety, but this chart focuses on primary authority over labeling for certain food types.

## The Current Federal Labeling Regime —How FDA and USDA Use Their Legal Authority

While FDA could interpret its existing statutory authority to enable it to regulate date labeling practices for the foods under its purview,<sup>75</sup> the agency has not done so. According to FDA, it “does not require food firms to place ‘expired by’, ‘use by’ or ‘best before’ dates on food products”; instead, “this information is entirely at the discretion of the manufacturer.”<sup>76</sup> The only exception is infant formula, which is subject to explicit FDA date labeling requirements.<sup>77</sup> In response to scandals resulting from recalls of infant formula products that were causing illnesses among children because the products lacked sufficient nutrients,<sup>78</sup> and due to findings that industry had too much discretion to decide the appropriate nutritional content of these products,<sup>79</sup> Congress passed the Infant Formula Act of 1980, mandating that FDA set uniform standards for the nutritional content of these products.<sup>80</sup> However, unlike the arguments around freshness discussed in the History Section, the Infant Formula Act focused only on the nutritional content of infant formula products. Under this Act, FDA established a range of regulations impacting infant formula, including a requirement that its labels include “use by” dates.<sup>81</sup> The regulations mandate that determinations used to assign such dates to infant formula must be based on tests that prove the concentration of nutrients is adequate for the health of children up to the marked date.<sup>82</sup>

When compared to FDA, USDA more explicitly addresses date labeling for food products under its authority. With a few exceptions, such as requiring a “pack date” for poultry products<sup>83</sup> and a lot number or “pack date” for egg products certified by USDA,<sup>84</sup> USDA also does not generally require date labels on regulated products.<sup>85</sup> However, the agency does have technical requirements addressing how dates should be displayed on USDA-regulated food products if they are employed voluntarily or according to state law. Under these rules, a calendar date “may” be applied to USDA-regulated products so long as it includes a day and a month, and possibly a year in the case of frozen or shelf-stable products.<sup>86</sup> USDA also requires calendar dates to be preceded by “a phrase explaining the meaning of such date, in terms of ‘packing’ date, ‘sell by’ date, or ‘use before’ date,” and notes that such dates can be implemented “with or without a further qualifying phrase, e.g., ‘For Maximum Freshness’ or ‘For Best Quality,’ and such phrases shall be approved by the Administrator [pursuant to procedures outlined in 9 C.F.R. § 317.4].”<sup>87</sup> This latter rule is arguably the most robust federal regulation that exists, but it is limited in three respects: (1) it applies only to USDA-regulated foods (poultry, meat, certain egg products); (2) the three explanatory phrases that are allowed (“packing,” “sell by,” and “use before”) are undefined by the regulation and are allowed to be used interchangeably, which highlights their lack of meaning and inability to communicate significance to consumers; and (3) the rule makes the use of “further qualifying phrases,” which could help correct ambiguity, totally optional.

## FEDERAL VOLUNTARY GUIDANCE

Instead of actively regulating date labeling practices in a uniform manner, the federal government has provided mostly voluntary guidance on this subject. One example of voluntary guidance is the “Uniform Open Dating Regulation,”<sup>88</sup> a product of the National Institute of Standards and Technology (NIST), a research and advisory body within the U.S. Department of Commerce, in partnership with the National Conference on Weights and Measures (NCWM), a not-for-profit corporation committed to creating uniform national standards for various units of measurement.<sup>89</sup> Recognizing that the “lack of uniformity between jurisdictions could impede the orderly flow of commerce,”<sup>90</sup> the NCWM has promulgated model regulations on open dating which they hope will be adopted by all state and local jurisdictions.<sup>91</sup> NCWM’s model regulations, which are published in NIST Handbook 130,<sup>92</sup> set “sell by” as the label date that jurisdictions should require for pre-packaged perishable foods and “best if used by” as the date that should be required for semi-perishable or long-shelf-life foods.<sup>93</sup> The model regulations allow all foods to be sold after their label dates, provided that they are of good quality and that perishable foods are clearly marked as being past-date.<sup>94</sup> NIST Handbook 130 also includes guidance for properly calculating the label date<sup>95</sup> and for expressing the date on packaging.<sup>96</sup>

Thus far, according to the 2013 edition of NIST Handbook 130, five states (Arkansas, Connecticut, Nevada, Oklahoma, and West Virginia) have regulations in place that automatically adopt the most recent NCWM Uniform Open Dating Regulation published in NIST Handbook 130.<sup>97</sup> Three more states, (Michigan, South Dakota, and Washington) and the U.S. Virgin Islands have adopted an earlier version of NIST Handbook 130 in whole or in part.<sup>98</sup> In sum, while federal guidance on the topic of date labels does exist, only a minority of states have implemented this voluntary guidance. Even though widespread adoption of the most current edition of the guidance would create uniformity and standardization across all states that adopt its open dating provisions, the guidance in NIST Handbook 130 has flaws. For example, as discussed in later sections, utilizing “sell by” dates increases confusion and food waste, and thus these dates are not as effective at communicating their significance to consumers. Suggestions on how date labeling guidance can be strengthened to effectively decrease consumer confusion, improve food safety, and reduce food waste will be discussed below in the Recommendations section of the report.

Another example of federal voluntary guidance is the FDA Food Code.<sup>99</sup> The FDA Food Code is a reference document issued by FDA that provides model regulations for state and local governments on food safety laws.<sup>100</sup> Like NIST Handbook 130, adoption of the code is voluntary. However,

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*In sum, while federal guidance on the topic of date labels does exist, only a minority of states have implemented this voluntary guidance.*

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many states have chosen to adopt it because the FDA Food Code reflects the expertise of dozens of food safety experts. Importantly, the Code itself is not law; it only becomes binding when states adopt it by statute or regulation, and states typically add their own modifications. A new version of the FDA Food Code was published every two years until 2001 and is now published every four years, with the most recent version published in 2009.<sup>101</sup>

The FDA Food Code addresses date labeling requirements in three different areas: shellfish;<sup>102</sup> refrigerated, ready-to-eat potentially hazardous food;<sup>103</sup> and reduced oxygen packaging.<sup>104</sup> For example, for shellfish, the FDA Food Code suggests a date labeling requirement for shellfish<sup>105</sup> that has been adopted by many states. For refrigerated, ready-to-eat potentially hazardous foods “prepared and held in a food establishment for more than 24 hours,” the FDA Food Code requires that they “be clearly marked to indicate the date or day by which the food shall be consumed on the premises, sold, or discarded based on [specified] temperature and time combinations.”<sup>106</sup> The FDA Food Code does provide some guidance, but it only applies date labeling language to a limited number of food items.<sup>107</sup> As mentioned above, states adopt language of the FDA Food Code in their own legislation or regulations; for example 13 states have adopted almost the exact same language as the shellfish date labeling provision in the FDA Food Code.<sup>108</sup>

## STATE LAW

The Supremacy Clause of the Constitution provides that when state and federal laws conflict, the conflicting state law will be invalidated.<sup>109</sup> Thus, state statutes are not preempted by federal law if they do not directly conflict with existing federal legislation.<sup>110</sup> Because federal regulation of date labels is so limited, states consequently have vast discretion to regulate date labels in almost any way they see fit. Certain states have used that discretion enthusiastically, creating a system of stringent requirements for date labels, while others have not regulated date labels at all. The result is an inconsistent state regulatory scheme that is not necessarily improving public health. One possible reason for such wide variation is that depending on the state, date labels fall under the purview of different state government departments, including Department of Health, Department of Agriculture, Department of Weights and Measures, Department of Commerce, or others.<sup>111</sup>

Furthermore, state law is not static; state legislatures are constantly updating and amending the date labeling requirements. Several states passed new date labeling laws within the past year. For example, Georgia amended its date labeling rules in 2012 by adding a definition for the term “expiration date,” (now defined as being “synonymous with Pull Date, Best-By Date, Best Before Date, Use-By

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*Certain states have used that discretion enthusiastically, creating a system of stringent requirements for date labels, while others have not regulated date labels at all. The result is an inconsistent state regulatory scheme that is not necessarily improving public health.*

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Date, and Sell-By Date,” and meaning “the last date on which the following FOOD products can be sold at retail or wholesale”)<sup>112</sup> and preventing sale after the expiration date of prepackaged sandwiches, eggs, infant formula, shucked oysters, milk, and potentially hazardous food labeled as “keep refrigerated.”<sup>113</sup>

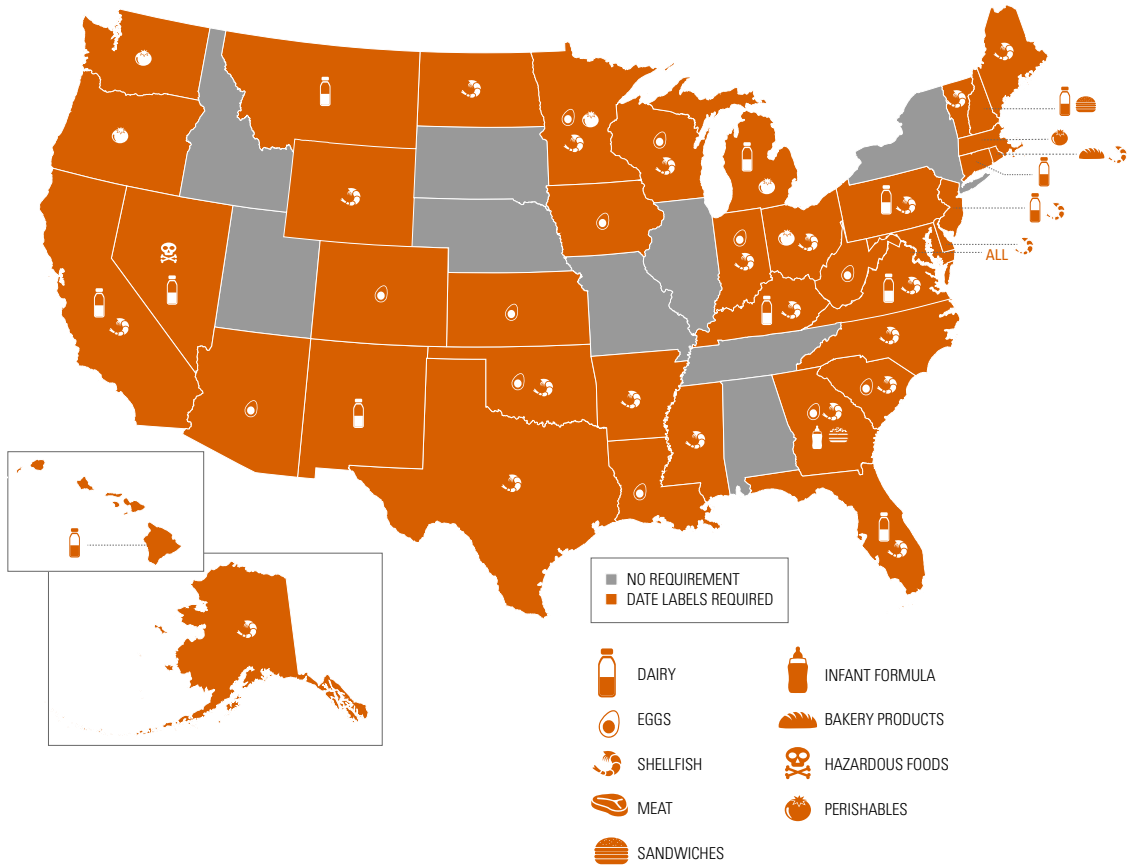
This section explores some of the patterns across state date label regulations that emerged from our 50-state research; it also highlights the extreme variations among these regulations to illuminate how our current food labeling system creates confusion for consumers and does not necessarily improve food safety. Although the most defining feature of the state-level regulation of date labels is its sheer variability,<sup>114</sup> there are several discernible patterns among the regulations. States can be roughly grouped into four categories:

1. Those that regulate the presence of date labels on certain foods but do not regulate sales after those dates;
2. Those that do not regulate the presence of date labels but broadly regulate sales after such dates if date labels are voluntarily applied;
3. Those that regulate both the presence of date labels and, broadly, the sale of products after those dates; and
4. Those that do not require or regulate date labels at all.

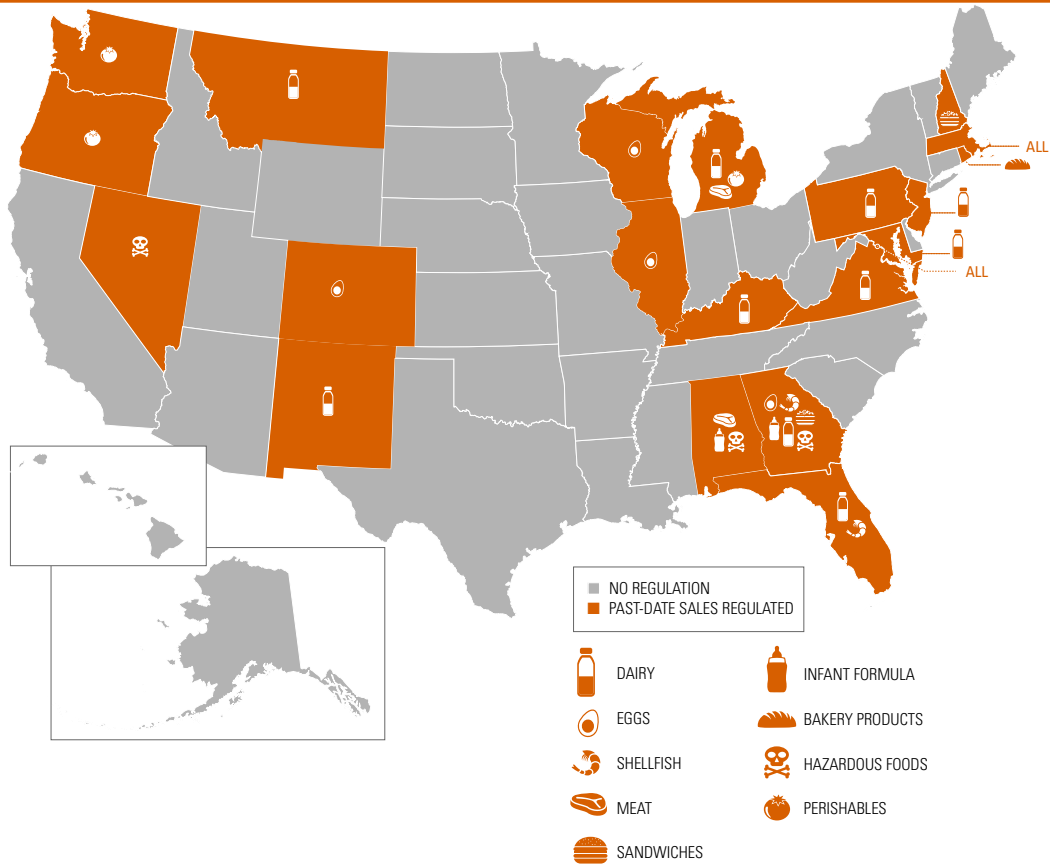
According to our 50-state research, 41 states plus the District of Columbia require date labels on at least some food items, whereas nine states do not require them on any foods (see Figure 2, below).<sup>115</sup> For example, New York does not require date labels to be applied to any products, while all six of its neighboring states—New Jersey, Pennsylvania, Connecticut, Massachusetts, Vermont, and Rhode Island—have such requirements. Twenty states plus the District of Columbia also regulate the sale of food products after some label dates, while 30 states have no such restrictions (see Figure 3, below). Massachusetts’s regulations are an example of the kind of restrictions states can impose on sales after the label date. In Massachusetts, “food can only be sold past its ‘sell by’ or ‘best if used by’ date if: (1) it is wholesome and its sensory physical qualities have not significantly diminished; (2) it is segregated from the food products which are not past date; and (3) it is clearly marked as being past date.”<sup>116</sup> As with this example, even when regulations exist around the use of date labels, very few states define what the words should mean and virtually none delineate the process for determining the dates (see Appendix C).

States also differ in the kinds of food they require to bear date labels (see Figure 4, below) as well as the kind of date labels that are required. Most states that require date labels or regulate the sale of past-date products apply their regulations to specific foods, such as shellfish, dairy/milk, or eggs. A handful of states regulate perishable foods more generally.<sup>117</sup> For example, Maryland requires only that Grade A milk bear a “sell by” date<sup>118</sup> and does not require a date label on any other products; Minnesota, on the other hand, requires “quality assurance” dates on perishable foods<sup>119</sup> and eggs,<sup>120</sup> and “sell by” dates on shellfish.<sup>121</sup> The most common food product that requires date labeling is shellfish, for which such labeling is specifically regulated in 24 states and the District

**Figure 2: States Requiring Date Labels on At Least Some Food Products<sup>127</sup>**



**Figure 3: States Regulating Food Sales Past Some Label Dates<sup>128, 129</sup>**



**Figure 4: States Regulating Date Labeling<sup>130</sup>**

STATE	PERISHABLE FOODS <sup>131</sup>	POTENTIALLY HAZARDOUS FOODS <sup>132</sup>	MILK/ DAIRY	MEAT/ POULTRY	SHELLFISH	EGGS	OTHER
ALABAMA		X		X			
ALASKA					X		
ARIZONA						X	
ARKANSAS					X		
CALIFORNIA			X		X		
COLORADO						X	
CONNECTICUT			X				
DELAWARE					X		
FLORIDA			X		X		
GEORGIA		X	X		X	X	X
HAWAII			X				
IDAHO							
ILLINOIS						X	
INDIANA					X	X	
IOWA						X	
KANSAS						X	
KENTUCKY			X		X		
LOUISIANA						X	
MAINE					X		
MARYLAND			X				
MASSACHUSETTS	X						
MICHIGAN	X		X	X			
MINNESOTA	X				X	X	
MISSISSIPPI					X		
MISSOURI							
MONTANA			X				
NEBRASKA							
NEVADA		X	X				
NEW HAMPSHIRE			X				X
NEW JERSEY			X		X		
NEW MEXICO			X				
NEW YORK							
NORTH CAROLINA					X		
NORTH DAKOTA					X		
OHIO	X				X		
OKLAHOMA					X	X	
OREGON	X						
PENNSYLVANIA			X		X		
RHODE ISLAND					X		X
SOUTH CAROLINA					X	X	
SOUTH DAKOTA							
TENNESSEE							
TEXAS					X		
UTAH							
VERMONT					X		
VIRGINIA			X		X		
WASHINGTON	X						
WASHINGTON, D.C.	X	X	X	X	X	X	X
WEST VIRGINIA						X	
WISCONSIN					X	X	
WYOMING					X		



of Columbia. Further, as previously mentioned, eight states have adopted the NCWM Uniform Open Dating Regulation in whole or in part, meaning that those states are more similar to one another in terms of their regulations.<sup>122</sup>

The details of each state's individual regulations also vary dramatically. The following examples only brush the surface of this variation, but illustrate how widely states have departed from one another in creating their open dating regulatory regimes:

- In Michigan, packaged perishable foods must include a date that may be displayed with or without explanatory terms such as “sell by” or “best before,” but if such terms are used, only particular phrases may be used.<sup>123</sup>
- Rhode Island requires that packaged bakery products contain pull dates.<sup>124</sup>
- New Hampshire and Georgia are the only states to explicitly single out pre-wrapped sandwiches for regulation.<sup>125</sup>
- In contrast with many other states, Minnesota and Ohio explicitly preempt local ordinances on food labeling, reserving all power in this arena to the state.<sup>126</sup>
- New York is one of nine states that have no regulations regarding food date labeling according to the qualifications assessed in this report.

The figures on the preceding pages provide a broad overview of both the patterns and the variations in state-level regulation of date labels. A full list of state regulations can be found in Appendix C.

## LOCAL REGULATIONS

Date labeling can also be regulated at the local level. The city of Baltimore, for example, prohibits the sale of any perishable food past its expiration date, whereas the state of Maryland does not.<sup>133</sup> In cases where cities have more stringent date

labeling regulations than the state in which they are located, inconsistency in the regulations could lead to even greater consumer confusion, and could also stand in the way of voluntary industry adoption of a more standardized dating system. Repealing or amending such city ordinances that do not improve public health and safety could allow for more consistency. For example, New York City used to require “expiration dates” on milk cartons even though the state of New York imposes no date labeling requirements on any foods.<sup>134</sup> In September 2010, the city repealed its date labeling requirement and fell in line with the state-level approach.<sup>135</sup> The city recognized that its own rule for open dates was not necessary to protect public health because if milk is “handled properly,” it will still be safe to consume even after the expiration date passes.<sup>136</sup> The City also noted that New York State had not reported any “adverse public health effects, poor milk quality or a decrease in milk demand” arising from not requiring a “sell by” date at the state level.<sup>137</sup>

## THE ROLE OF INDUSTRY

The inconsistent regulation of date labels at the federal, state, and local levels means manufacturers and other industry actors often must decide the form and content of date labels.

Where no regulations exist, as is the case in many states and for many categories of food, manufacturers are free to decide for themselves which foods will display an open date and which will not. Even when regulations mandate the presence of date labels on specific foods, they almost never dictate the criteria that industry should use to arrive at the date on the label, thus leaving the decision entirely to industry discretion.

Some food trade organizations have responded to the lack of uniform regulations by creating their own voluntary guidance for open date labeling,<sup>138</sup> but this guidance is not always consistent from one organization to the next.<sup>139</sup>

Because of the lack of standardization, some retailers



*The inconsistent regulation of date labels at the federal, state, and local levels means manufacturers and other industry actors often must decide the form and content of date labels.*

have even taken it upon themselves to create date labeling practices for products sold in their stores. For instance, in 2004 Walmart started to require its suppliers to place a “best if used by” date on all food products in an effort to ensure consumers of the products’ freshness.<sup>140</sup>

While this policy was created with the best of intentions

and helped to standardize labels, this change may have in fact led to increased shelf-stable inventory that would have previously been sold without a date label now risks being wasted when the date labels expire.<sup>141</sup>

With increased expectations for the food industry to address social and environmental concerns,<sup>142</sup> improving the date labeling regime actually provides an opportunity for the food industry to better serve consumer interests while simultaneously creating positive environmental and social change. Food companies may be able to benefit financially by developing creative “cause-related marketing” strategies designed for consumers interested in reducing food waste and willing to purchase food items close to the expiration date.<sup>143</sup>

### Figure 5: Summary of Voluntary Guidelines and Informal Recommendations by Food Trade Organizations on Open Date Labeling of Food Products

**Association of Food Industries:** Informally recommend open dating of olive oil.

**Food Marketing Institute:** Support a voluntary “sell by” date accompanied by “best if used by” information.

**International Dairy-Deli-Bakery Association:** Informally recommends manufacturers’ guidelines (sell by/pull by) for foods that are put on display in the supermarket, such as deli meats.

**National Food Processors Association:** For refrigerated and frozen foods, indicates that manufacturers are in the most knowledgeable position to establish the shelf life and consequently the specific date labeling information that is most useful to the consumer. To harmonize date labeling among food products, supports a month/day/year (MMDDYY) format, either alphanumeric or numeric.

**Specialty Coffee Association of America:** Encourages members to put a “born-on” date on their products.

*Source: EASTERN RESEARCH GRP., INC., CURRENT STATE OF FOOD PRODUCT OPEN DATES IN THE U.S. 1-13 (2003).*

## CHAPTER 3: SHORTCOMINGS OF THE CURRENT SYSTEM

### INCONSISTENT AND UNRELIABLE WORDING AND METHODS OF DETERMINATION

The lack of binding federal standards, and the resultant state and local regulatory variability in date labeling rules, has led to a proliferation of diverse and inconsistent date labeling practices in the food industry. Open dates can come in a dizzying variety of forms, none of which are strictly defined or regulated at the federal level. This haphazard system is not serving its purpose well.

Though it is impossible to provide actual definitions as meanings can vary by state and phrases are not legally defined, the following terms can loosely be interpreted as: (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 a 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. It is important to note that the meaning of these terms may vary from product to product and among manufacturers of the same products because there is no industry consensus surrounding which date label prefix should be applied to different categories of food products.<sup>144</sup>

In addition to discretion over which label to use, industry actors vary in their decisions about when to include a label on a product at all. In a 2003 report prepared for the FDA, six manufacturers were interviewed and asked to describe their processes for deciding when to include an open date on one of their products, and their answers varied widely.<sup>145</sup>

Most manufacturers agreed on certain important factors, including the perishability of a product,<sup>146</sup> but beyond that there was a wide range of different responses, illustrating the broad level of discretion left to manufacturers. For instance, some made their decision based on space constraints on packaging while others considered the decision as part of their marketing strategy.<sup>147</sup> Industry guidelines, likewise, do not typically influence manufacturers’ decisions to include date labels and do not usually identify which shelf stable foods should bear open dates.<sup>148</sup>

Manufacturers are left to decide for themselves not only when to use a date label and what label term to use, but, importantly, how this date will be determined.<sup>149</sup> According



to the 2003 report prepared for FDA, a key motivating force behind a manufacturer’s decision to open date is the protection of the consumer’s experience of a product,<sup>150</sup> in order to safeguard that product’s reputation.<sup>151</sup>

Manufacturers and retailers accomplish this goal by focusing on the product’s shelf-life—typically conceptualized as “the end of consumer quality determined by the percentage of consumers that are displeased by the product.”<sup>152</sup>

Manufacturers and retailers are ultimately free to define shelf-life according to their own market standards, “with some accepting a predetermined degree of change” in product quality over time, “and others finding that no change is acceptable.”<sup>153</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, in order to protect their brand integrity. Some manufacturers use lab tests to determine the shelf life, others use literature values, and yet others use product turnover rates or consumer complaint frequency.<sup>154</sup> Ultimately, there is a high degree of variability, arbitrariness, and imprecision in the date labeling process. As explained by one food scientist and former food industry official describing one process that uses grades assigned by professional tasters:

If the product was designed, let’s say, to be a 7 when it was fresh, you may choose that at 6.2, it’s gotten to the point where [you] don’t want it to be on the market anymore . . . . If it’s 6.0, would most people still find it reasonably good? Absolutely. . . . But companies want people to taste their products as best they can at the optimum, because that’s how they maintain their business and their market shares.<sup>155</sup>

Thus, while open code dating appears on the surface to be an objective exercise, consumer preferences and brand protection color the way in which most of these dates are determined. In most cases, consumers have no way of knowing how a “sell by” or “use by” date has been defined or calculated, and to reiterate from above, the method of calculation may vary widely “by product type, manufacturer, and geography.”<sup>156</sup>

It is reasonable that manufacturers want to protect their brands’ reputations. Still, here may be a place for more objective and empirically-grounded methods for determining quality-based dates. One such method that could be applied for some products is the use of empirical shelf-life testing.<sup>157</sup> A product’s “shelf-life” can be determined by testing and monitoring the product over its actual shelf-life, which can take several years for shelf-stable products.<sup>158</sup> Alternatively, manufacturers can employ accelerated shelf-life testing, a practice involving the study and storage of food products under test abuse conditions.<sup>159</sup> However, at present, the use of shelf-life testing is almost entirely optional.<sup>160</sup> For those manufacturers that lack the requisite time, money, expertise, or initiative to conduct such testing, open dates end up being “no more than very good guesses or industry practice.”<sup>161</sup> The 2003 report prepared for the FDA noted that creating a mandatory national open dating system, which would standardize date labeling practices across the nation, could also present an opportunity to require manufacturers to implement more rigorous shelf-life testing.<sup>162</sup>

The variability of how dates are chosen and expressed is also reflected in FDA’s Food Label and Package Survey from 2000-2001, which found that just under 55 percent of food products sold had any kind of date label.<sup>163</sup> Out of that 55 percent, Figure 6 shows the breakdown of the label types that were employed. It is possible that dating practices have increased since this survey, particularly after WalMart began requiring its suppliers to utilize “best if used by” dates in 2004.<sup>164</sup>

Even when given a more limited scope of date label terminology to choose from, the issue of food waste persists. For example, in the United Kingdom, manufacturers are bound under Directive 2000/13/EC of the European Parliament and of the Council (E.U. Food Labeling Directive) to include either a quality-based “best before” date or a safety-based “use by” date.<sup>166</sup> However, it remains up to the industry to determine which of those two terms to use, leading to

inconsistencies in the labeling of similar products, as evidenced by this finding from a United Kingdom industry report:

... 75 percent of yogurt lines were marked with a “use by” date and 25 percent with a “best before” date. In conversations with retail food technologists, it was explained that some products like yogurts, fruit juices and hard cheeses do not necessarily constitute food safety risks but simply spoil and therefore may not need to have a “use by” date applied at all.<sup>167</sup>

Further, industry actors are often more likely to include “use by” dates (defined as safety dates) on products that would merit a “best before” date (defined as quality date), causing further unnecessary waste because the United Kingdom bans the sale of food products after the “use by” date.<sup>168</sup> In 2011, in response to the persistently high rates of food waste, the U.K. Department for Environment, Food and Rural Affairs (DEFRA) issued “Guidance on the application of date labels to food” to help industry comply with the E.U. Food Labeling Directive using standardized methods.<sup>169</sup> The DEFRA Guidance provides a decision tree for industry actors that explains when to use which of the two mandatory dates, in order to try to streamline the date labeling used on similar products.<sup>170</sup> The Guidance also suggests that retailers should make “display until” and “sell-by” dates, which were unregulated and, as in the United States, used primarily as stock rotation tools, less visible to consumers in order to reduce unnecessary food waste due to consumer confusion regarding those particular dates.<sup>171</sup>

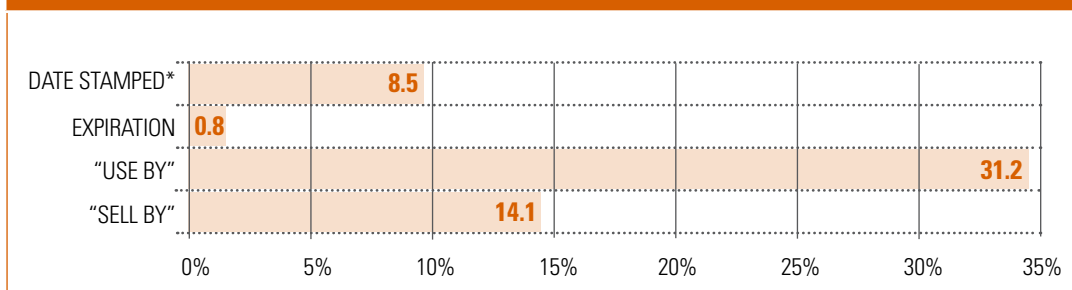
Back in the United States, the end result of the lack of standardization of date labels is consumer confusion and inability to make informed decisions based on the information contained in date labels, which ultimately

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**Thus, while open code dating appears on the surface to be an objective exercise, consumer preferences and brand protection color the way in which most of these dates are determined. In most cases, consumers have no way of knowing how a “sell by” or “use by” date has been defined or calculated, and to reiterate from above, the method of calculation may vary widely “by product type, manufacturer, and geography.”**

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**Figure 6: Distribution of Label Date Types**<sup>165</sup>



\* “Date stamped” refers to products stamped with a date, but without any accompanying words.

leads to food waste. Because consumers cannot understand what factors led to the selection and setting of label dates, often they mistakenly assume that these dates are tied to food safety,<sup>172</sup> whereas in reality their true function is to convey information about freshness and quality grounded in the preferences of consumers themselves and the particular brand protection practices of manufacturers. This misunderstanding also creates the opportunity for an unscrupulous manufacturer to maximize profits at the expense of consumers' economic interests. The fact that consumers and stores throw away products unnecessarily can lead to increased profits for manufacturers if consumers are purchasing more products and doing so more often. According to at least one supply chain expert, some manufacturers may artificially shorten stated shelf lives for marketing reasons.<sup>173</sup> More empirical research on this topic would be helpful. The current system provides few checks to prevent manufacturers from engaging in such a practice.

### CONSUMER CONFUSION AND MISINTERPRETATION OF LINK TO FOOD SAFETY

The current food dating system leads to consumer confusion and misinterpretation in two fundamental ways. On one hand, evidence suggests that consumer overreliance on label dates results in food being wasted because of safety concerns that are not founded on actual risks. At the same time, such overreliance can also cause consumers to ignore more relevant risk factors affecting food safety, including the importance of time and temperature control, as discussed further below. Label dates thus create a false (and potentially dangerous) sense of security for consumers who uncritically consume foods before their marked expiration date.<sup>174</sup> Thus, neither the public's health nor resource conservation are well-served by the current date labeling system.

#### Mistaken Belief That Past-Date Food Is Unsafe to Consume

Although most date labels are intended as indicators of freshness and quality,<sup>175</sup> many consumers mistakenly believe that they are indicators of safety.<sup>176</sup> A 2007 survey of U.S. adults funded by USDA's National Integrated Food Safety Initiative of the Cooperative State Research, Education, and Extension Service (CREES) found that many of the respondents could not identify the general meanings of different open dates, with fewer than half (44 percent) correctly describing the meaning of the "sell by" date and only 18 percent correctly indicating understanding of the "use by" date.<sup>177</sup> In addition to this substantial confusion, 25 percent had the misconception that "sell by" date identifies the last day on which a product can be consumed,<sup>178</sup> rather than an inventory-control date that simply recommends how long a product should be displayed on the shelf vis-à-vis newer products.<sup>179</sup> A separate survey by the FMI found that 91 percent of consumers reported that at least occasionally they had discarded food past its "sell by" date out of concern for the product's safety, with 25 percent reporting that they always did so.<sup>180</sup> Moreover, a report sponsored by the National Advisory Committee on Microbiological Criteria for



Foods (NACMCF) and several federal agencies<sup>11</sup> highlighted that "54% of consumers believed that eating food past its sell by/use by date constituted a health risk."<sup>182</sup> Other studies found that a majority of respondents believe either that food is no longer safe to be sold<sup>183</sup> or that it is no longer safe to be consumed after its open label date.<sup>184</sup> Individuals from all age and income groups are confused about the current system of date labels.<sup>185</sup>

In fact, the current date labeling system does not address safety, nor was that ever its main impetus. As referenced previously, the OTA's landmark report on open code dating from 1979 concluded:

There is little or no benefit derived from open dating in terms of improved microbiological safety of foods. For foods in general, microbiological safety hazards are a result of processing failures, contamination after processing, and abuses in storage and handling. These factors are usually independent of the age of the product and have little relationship to an open date.<sup>186</sup>

USDA affirms that "even if the date expires during home storage, a product should be safe, wholesome and of good quality if handled properly and kept at 40°F or below."<sup>187</sup> Echoing this assertion, the FDA's Center for Food Safety and Applied Nutrition (CFSAN) has noted that most foods, when kept in optimal storage conditions, are safe to eat and of acceptable quality for periods of time past the label date.<sup>188</sup>

Other studies also show there is no direct correlation between food safety and date labels. In the United Kingdom, representatives from retail and manufacturing compiled a

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**USDA affirms that "even if the date expires during home storage, a product should be safe, wholesome and of good quality if handled properly and kept at 40°F or below."**

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report with a wide-ranging review of date labels, consumer safety, and food waste. The report, published in 2011, found no direct evidence linking foodborne illness in the United Kingdom to consumption of food past its expiration date.<sup>189</sup> Food safety experts agree that absent time/temperature abuse, when food is allowed to remain too long at temperatures favorable to the growth of foodborne microorganisms, many food products will be safe past their date labels, although there are exceptions for certain classes of “ready-to-eat” perishable foods and foods to be consumed by certain susceptible populations,<sup>190</sup> both of which are discussed below. Quality-based date labels are not relevant food safety indicators because a food will generally “deteriorate in quality to the point that it would not be palatable to eat before there [is] an increase in the level of food safety risk.”<sup>191</sup> Quality-based label dates are generally set far before this spoilage point, meaning that there is a significant amount of time past the label date during which the food is still safe to eat.

The incredible variation between state and local regulations regarding date labeling and the sale of food after the label date further supports the conclusion that the use of these dates does not advance public health in a meaningful way. While some states, like Massachusetts, regulate date labeling and sale after some date labels aggressively, a significant number of states, including New York, leave the field completely unregulated. Given that the same food products are no more or less hazardous in different states, it appears that at least some states are pursuing date labeling policies that lack robust empirical support. If persuasive evidence comes to light showing that there is a proven correlation between label dates and food safety, then all jurisdictions should adopt similar regulations. Alternatively, and more realistically, jurisdictions with more stringent date labeling requirements should review whether their regulations are actually designed to address food safety risks. Further research on the relative rates of foodborne illnesses in states that have restrictions on sale after date versus those that do not may be instructive on the level of protection that those regulations actually provide.

### **Mistaken Belief that Pre-Date Food Is Always Safe to Consume**

While the mistaken belief that past-date foods are unsafe leads directly to food waste, overreliance on date labels may also have a detrimental effect on consumer health and safety. When consumers put undue faith in date labels, they may actually ignore more salient determinants of food safety, putting themselves at risk. Specifically, when consumers rely on a date label that emphasizes a product’s estimated lifespan without any accompanying information about the storage temperature or conditions under which the food was or should be kept, they are acting without critical information. A label date, if it is even designed to communicate safety, could truly only convey meaningful safety information if it were presented in conjunction with the time/temperature history of the product, meaning how long and at what temperatures the food was stored.<sup>192</sup>

Consumers often do not understand the relationship of time and temperature to safety; many people do not realize that the amount of time food spends in the danger zone (40° to 120° degrees Fahrenheit) is the main criterion they should use to evaluate food safety, rather than total storage time.<sup>193</sup>

When food is left at unsafe temperatures for too long or is otherwise compromised, an open date becomes essentially meaningless, but consumers may trust the label date and use the product anyway.<sup>194</sup> The 1979 OTA report specifically expressed this concern, stating that date labels might disserve consumers by giving them a false sense of security.<sup>195</sup> A 2011 government report out of the United Kingdom also recognized the possibility that the “proliferation of ‘use by’ dated products increases risk for consumers by diluting key food safety messages.”<sup>196</sup> This worry about false confidence is borne out in a study reporting that more than half of all American adults think the “use by” date is an indicator of microbiological safety.<sup>197</sup>

### **A Different Case: *Listeria Monocytogenes* and Refrigerated Ready-to-Eat Foods**

There is one area of food safety concern that *does* implicate date labeling as a potential regulatory solution: the risk of *Listeria monocytogenes* in ready-to-eat-foods. According to FDA’s Center for Food Safety and Applied Nutrition, *Listeria* is “a bacterium that occurs widely in both agricultural . . . and food processing environments.”<sup>198</sup> If ingested by humans, the bacterium can cause listeriosis, a potentially life-threatening infection.<sup>199</sup> For most foodborne pathogens, “the duration of refrigerated storage is not a major factor in foodborne illness.”<sup>200</sup> But in the case of food contaminated by *Listeria*, the length of refrigerated storage time is a factor,<sup>201</sup> since this organism can grow and multiply even while under refrigeration.<sup>202</sup> For this reason, the federal government identified *Listeria* as a pathogen for which a safety-based “use by” date label could be a useful preventive tool.<sup>203</sup> However, because *Listeria* is destroyed upon cooking, this



risk is generally limited to ready-to-eat foods that are not heated before consumption.<sup>204</sup> Indeed, of the 14 large-scale foodborne listeriosis outbreaks reported to the Centers for Disease Control and Prevention (CDC) between 1973 and 2000,<sup>205</sup> almost all were known or suspected to have involved refrigerated ready-to-eat foods.<sup>206</sup>

While *Listeria* in ready-to-eat-foods is a legitimate problem in the food supply, this concern does not justify, nor is it addressed by, the current date labeling system. *Listeria* concerns in ready-to-eat foods could be more effectively addressed using targeted, well-tailored interventions that might include a date that explicitly indicates when the food is safe to consume, but would also have other information beyond just the date. Such interventions could integrate important food safety considerations at all stages of the supply chain, like the prevention of time/temperature abuse,<sup>207</sup> which is not assured by the imposition of date labels alone. Federally-regulated open dating may be appropriate for discrete categories of foods that pose a unique public health risk, such as ready-to-eat products. But the use of specialized regulations applicable only to such high-risk foods would better protect consumers if they allowed for consumers to distinguish between truly pertinent safety labels and generic, quality-based labels. Indeed, recognizing the dangers inherent in ready-to-eat foods, FDA has already promulgated regulatory guidance focusing on this category in the FDA Food Code.<sup>208</sup> The Food Code takes a holistic approach to the processing and handling of ready-to-eat foods along the supply chain, and provides specific time/temperature guidelines for the holding and consumption of ready-to-eat foods at the retail level.<sup>209</sup> Date labeling requirements constitute one element of this integrated approach<sup>210</sup> and complement the more important goals of minimizing *Listeria* contamination and time/temperature abuse.<sup>211</sup>

It is even possible to imagine finer-grained distinctions being made within the category of ready-to-eat foods, allowing for better-tailored and effective date labels. This is because certain categories of ready-to-eat foods that have been found to support the growth of *Listeria* carry a much higher risk than others. When CFSAN conducted a quantitative assessment of the relative risk of 23 food categories with a documented history of *Listeria* contamination, only two categories were designated as being at “very high risk” of contamination: “Deli Meats” and “Frankfurters, Not Reheated.”<sup>212</sup> Categories with a “very low risk” included “Hard Cheese,” “Ice Cream and Other Frozen Dairy Products,” and “Processed Cheese.”<sup>213</sup> While foods posing a very high risk necessitated “immediate attention in relation to the national goal for reducing the incidence of foodborne illness,” very low risk foods were deemed “highly unlikely to be a significant source of foodborne listeriosis” absent “a gross error in their manufacture.”<sup>214</sup> Thus, even according to FDA’s own research, *Listeria*-related food safety risks do not extend to every product type within the ready-to-eat category.

Finally, but no less importantly, it should be noted that serious illness from *Listeria* occurs almost exclusively in susceptible populations like the elderly, those with compromised immune systems, and babies *in utero*.<sup>215</sup> It

may therefore make more sense to target those population specifically. For example, Connecticut’s food safety regulations allow food service establishments to serve raw or undercooked items, but makes explicit that such exemption does not apply in the case of “food service establishments serving highly susceptible populations such as immuno-compromised individuals or older adults in hospitals, nursing homes, or similar health care facilities . . . and preschool age children in a facility that provides custodial care.”<sup>216</sup> Labels could also carry population-specific messaging. Education is important as well, such as when government agencies advise pregnant women to avoid deli meats and unpasteurized cheeses because of the *Listeria* risk.<sup>217</sup>

As laid out in this section, it is possible to address product-specific food safety concerns (e.g., for ready-to-eat foods) by using clear, targeted interventions, including standardized, effective date labeling,<sup>218</sup> without creating unnecessary and unwanted collateral effects across the entire food system.<sup>219</sup> For most foods, including many ready-to-eat foods, the current date labeling framework does not advance public health in any significant way. For the reasons presented above, food safety considerations should not constitute a primary justification for maintaining present date labeling practices. Instead, specific practices should be tailored to ready-to-eat-foods to help consumers make better food safety choices with regard to those high-risk foods.

## CONSUMER FOOD WASTE

Consumer confusion surrounding the meaning of date labels also contributes to the high rate of waste of edible food. Food loss has been defined as the “edible amount of food available for human consumption but [] not consumed.”<sup>220</sup> Food waste is a subset of food loss, representing the amount of edible food that goes unconsumed due to human action or inaction.<sup>221</sup> By conservative estimates, U.S. food losses amount to 160 billion pounds of food annually.<sup>222</sup> This waste has important economic, environmental, and ethical implications.

To start, it is estimated that per capita food loss is \$390 per year, putting the total food loss for a family of four at \$1,560 annually.<sup>223</sup> One expert in consumer food waste thought that figure was too low because it did not capture the estimated 10 percent of consumer food lost to the garbage disposal.<sup>224</sup> With that additional portion factored in, food losses could cost the average American family \$2,275 annually.<sup>225</sup>

On the environmental front, studies show that more than 25 percent of all the freshwater used in the United States is squandered on the production of wasted food.<sup>226</sup> The EPA reports that over 34 million metric tons of food scraps were generated in 2010,<sup>227</sup> almost all of which went into the waste stream, making food the greatest source of waste headed to landfills in the United States at 21 percent of all landfill input.<sup>228</sup> The most alarming statistic is that food loss in the United States has been on the rise for the past several decades, with per capita food loss increasing by 50 percent since 1974.<sup>229</sup>

Recent studies conducted in the United Kingdom have explored the connection between food waste and food date labeling. A report published in 2011 by WRAP, a not-

for-profit organization that works to reduce food waste in the United Kingdom and other European countries, reported that confusion over date labeling accounts for an estimated 20 percent of avoidable household food waste.<sup>230</sup> Comprehensive research on the connection between date labels and food waste has not yet been conducted in the United States.

As the previous section makes clear, the majority of American consumers do not understand date labels, with a significant chunk of them mistakenly believing that eating food past its “sell by” or “use by” date poses a health risk.<sup>231</sup> Consumers’ discarding of food on or before the “sell by” date offers further evidence of food waste that is linked to date labeling because that date does not in fact indicate the food is spoiled. In a 1987 study, 17 percent of weekly household waste was reported discarded because it was “past a pull date, an expiration date, or, in some cases, a series of production code numbers misinterpreted as a date,” or “because the consumer believed that the food was too old by some other time standard.”<sup>232</sup> Thus, while more research would help to further define the scale of the problem, it is already quite clear that date labels play a central role in generating food waste among U.S. consumers.

### **ECONOMIC LOSSES AND INEFFICIENCIES FOR MANUFACTURERS, DISTRIBUTORS, AND RETAILERS**

Because of the consumer misperceptions that surround the meaning of date labels, the practice of open dating usually results in a higher rate of unsaleable—and hence often discarded—food for retail stores.<sup>233</sup> In the United States, an industry initiative estimated about \$900 million worth of inventory was removed from the supply chain in 2001 due to date code expiration and identified the lack of standardization around date coding as one of the five factors driving that loss.<sup>234</sup> This food represents a direct economic loss for retailers, and ultimately could be a cost born by consumers in the price of goods. Aside from the costs of wasted food, inconsistent date labeling regulations that are not benefiting public health can also make food businesses less efficient. Retail experts have reported that it can be difficult for large-scale food corporations to comply with divergent state regulations.<sup>235</sup> Indeed, one of the driving motivations for the NCWM when it created the Uniform Open Dating Regulation was the fear that variation between state regulations on date labels would hamper the “orderly flow of commerce” among states.<sup>236</sup> With the current regulations, companies often must use separate packaging lines for products entering different jurisdictions in order to comply with these divergent state laws. Further, food packers and manufacturers have an incentive to follow the strictest state labeling regulations for all of their products, even for products sold in states with no regulations. Because no states prohibit date labels, this method can be less costly for companies. However, this means that date labels could be having the same confusing impacts even in states without regulations because products in all states wind up with labels that are not protecting consumers.

### **CHALLENGES FOR FOOD RECOVERY INITIATIVES AND ANTI-HUNGER ORGANIZATIONS**

The food waste that is generated by date labeling practices can and often is offset by back-end efforts to reclaim, rescue, or repurpose past-date foods in order to prevent them from being discarded. One approach to mitigating food waste is to divert expired foods to anti-hunger organizations that can process and distribute these products to food-insecure individuals and families. Safe, wholesome past-date products constitute a significant portion of the food relief that is distributed by food banks and soup kitchens.<sup>237</sup> As well, there are a number of new organizations that specialize in linking anti-hunger initiatives with past-date or otherwise unsaleable foods.<sup>238</sup>

Another way that retailers can mitigate food waste is by selling past-date products at lower prices through a designated “discount” section of the store<sup>239</sup> or, alternatively, to external businesses including freestanding expired food stores<sup>240</sup> or expired food auctions.<sup>241</sup> These retail avenues give savvy, price-conscious consumers the option of voluntarily foregoing the quality standards indicated by a date label in exchange for often significant cost savings.

Despite these promising initiatives, many of the same distorting and disorienting effects caused by date labels in the traditional retail context can also be present in the past-date retail market. Consumer confusion surrounding the meaning of date labels and their relationship to food safety severely limits the market for past-date products. Experts in food recovery<sup>242</sup> and food waste<sup>243</sup> report that there is also widespread confusion amongst anti-hunger program administrators over the meaning of various date labels. Food safety officers working with anti-hunger organizations must consequently spend considerable time and effort educating workers about the date labeling system, and those workers must in turn educate clients and end-users when they express concerns or uncertainty about the products they are receiving.<sup>244</sup>

Laws in 20 states plus the District of Columbia also explicitly regulate the sale (and sometimes even donation) of foods beyond their label date (see Figure 3). Donors may also be concerned about their liability associated with food-safety, even though they are protected by state and federal “Good Samaritan” laws that exist to protect from liability the corporations and individuals who donate food to non-profit organizations.<sup>245</sup> Finally, state and local food inspectors have been known to frustrate food recovery efforts on the basis of questionable—or, in some cases, clearly mistaken—interpretations of how local health codes and food safety laws view past-date foods.<sup>246</sup> For example, an inspector may assume that a past-date product cannot be safe or wholesome, even though date labels alone are not reliable indicators of safety or wholesomeness. All of these complications stemming from date labeling practices make it more difficult to use food recovery methods to mitigate the food waste that is caused by those practices.



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## CHAPTER 4: RECOMMENDATIONS

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**A** new system for food date labeling in the United States is needed. This system should have uniform language that clearly communicates to consumers the meaning of dates as well as other food safety and handling information. The system should be the same throughout the United States for foods within the same category of products, and to the extent reasonable, across all classes of food products.



The recommendations proposed here respond directly to the myriad problems linked to the current date labeling legal framework. They are broken into two sections. The first section proposes changes to date labeling practices in order to standardize the labels, reduce consumer confusion, improve consumer food safety, and decrease food waste. The second section describes the activities that specific actors, such as industry players, governmental bodies, and consumers, should take to spur date label reform and thus improve food safety and decrease food waste.

### **STANDARDIZE AND CLARIFY THE FOOD DATE LABELING SYSTEM ACROSS THE UNITED STATES**

1. ***Make “Sell By” Dates Invisible to the Consumer.*** “Sell by” dates are designed for stock control by retailers, as a business-to-business communication between manufacturers and retailers. As described above, they

offer no useful guidance to consumers once they have brought foods home, and are often misinterpreted by consumers as safety dates. Guidance on when to *eat* the product may be helpful to consumers, but guidance on when to *sell* it is not. Affixing these dates in a closed date format, per prior industry practice,<sup>247</sup> will allow for efficient retail stock rotation without unnecessarily confusing consumers. Those same products could then display dates that do provide useful guidance to the consumer, such as those described in the next recommendation.

The British approach is illustrative here. As described above, food products in the United Kingdom are required to include “use by” or “best before” date labels under the E.U. Food Labeling Directive.<sup>248</sup> But despite the Directive’s requirements to use only two qualifying prefixes before date labels, U.K. law still allowed food companies the discretion to mark food products with

“display until” or “sell by” dates in order to facilitate stock control.<sup>249</sup> Research indicated that consumers were confused when faced with “sell by” or “display until” dates, and 29 percent of consumers could not correctly identify their meaning.<sup>250</sup> To solve this confusion, the DEFRA Guidance mentioned above recommended that retailers make “sell by” and “display until” dates less visible to the consumer.<sup>251</sup> While the change is too recent to determine its impact, a number of experts in the U.S. retail sector have suggested a similar change.<sup>252</sup>

## 2. **Establish A Reliable, Coherent, and Uniform Consumer-Facing Dating System.**

There is little to no benefit from states regulating food product dating differently from one another, or from companies independently determining the language that will be used on date labels, if this discretion is not in fact leading to any real health or safety benefits. In fact, a joint industry task force examining this issue in 2007 concluded that “industry and consumers would benefit from a more common approach to how [open date] information is communicated and to how the supply chain uses this information to manage inventory.”<sup>253</sup>

The work of various actors, including industry members, policymakers, food safety experts, consumer behavior experts, and consumer advocates, is needed to establish the most effective system of consumer-facing dates. A new system should include the following components:

- **Establish standard, clear language for both quality-based and safety-based date labels.** Language used on food products should more clearly and accurately communicate a date’s meaning. Consumer research should be used to determine the exact wording that best communicates these meanings, but the language should be *standardized, unambiguous*, and should *clearly delineate between safety-based and quality-based dates*. For example, for foods where safety may play a role in the date, “safe if used by” more clearly communicates the safety aspect as compared to “use by.” In addition, *more descriptive, explicit statements should be used*. For example, instead of short phrases like “best before” for quality-based labels, a phrase such as “Peak quality [or freshness] guaranteed before MMDDYY” would better convey relevant information.<sup>254</sup> If space constraints on packages become problematic, standardized symbols or visual cues may also be of use to communicate these concepts.

One additional option would be for government to require, or industry to voluntarily adopt, boilerplate disclaimers on any quality-based date labels. For example, manufacturers could include a statement that “This date is an indicator of quality. Product safety has not been tested or linked with this date,” or a statement that “Any dates displayed are not safety dates. They have not been evaluated by FDA.” While this may require more space on packages, similar disclaimers are already employed by FDA in other regulatory contexts.<sup>255</sup>

- **Include “freeze by” dates and freezing information where applicable.** Including “freeze by” dates on food products, especially perishable products, could reduce the amount of food wasted by consumers. According to USDA FSIS, “once a perishable product is frozen, it doesn’t matter if the date expires because foods kept frozen continuously are safe indefinitely.”<sup>256</sup> For consumers concerned about being unable to use a food product before its expiration date, or concerned that such a product may deteriorate in quality after the expiration date, the presence of a complementary “freeze by” label could serve as a reminder to freeze the product instead of discarding it. The best expression for this may be “use or freeze by.”

More generally, it is important to raise consumer awareness of the benefits of freezing food and the abundance of different food products that can be successfully frozen. In the United Kingdom, food products that are “suitable for home freezing” are marked with a snowflake label.<sup>257</sup> American food companies or retailers could implement a similar symbol to communicate this information to consumers and provide helpful guidance on how to maintain the product’s quality when freezing it. Furthermore, education campaigns aiming to reduce food waste should focus on reiterating the benefits of freezing as one component of their message.

- **Remove or replace quality-based dates on non-perishable, shelf-stable products.** In order to reduce food waste, it may be most effective to remove quality-based dates, such as “best before” on non-perishable, shelf-stable foods.

Even if quality-based dates were removed, information on shelf life after opening should still be communicated, such as “Best within XX days of opening.” As an alternative, it may be desirable to provide consumers with a “pack date” and a general estimate of the product’s shelf-life (for example, “maximum quality XX months after pack date”) on certain products to help consumers make informed and independent quality-based judgments.

Where there is not a safety concern, such an approach would encourage consumers to make judgments about freshness and quality by actively investigating the food product at issue instead of relying on an industry-provided label. This approach would make it more likely that food is only disposed of when it has actually degraded to a quality level that the individual consumer finds to be personally unacceptable, and it would circumvent the incentive that manufacturers and retailers have to set date labels too conservatively. In addition, this practice would place more weight on labels placed on products that raise safety concerns, such as ready-to-eat-foods that pose a heightened *Listeria* risk.

- **Ensure date labels are clearly and predictably located on packages.** Consumers should be able to easily locate date label information on packages. One option would be the creation of a “safe handling” information box on food products, akin to the “nutrition facts” panel. This safe handling box could include information about the pack date, recommended best quality date or use by date, depending on the type of food, guidance for freezing, and information about how best to store the product.
- **Employ more transparent methods for selecting dates.** Assuring that date labels reflect the true shelf-life of products would give consumers who rely on date labels the maximum amount of time to consume their purchases before the date expires. Those who set label dates could be required where practical, to engage in quantitative shelf-life testing to determine a product’s label date. There are currently no such requirements at the federal level, except in the case of infant formula.<sup>258</sup> An even more robust version of this requirement would require the testing to be done by some kind of independent body, external to the entity setting the date. Alternatively, manufacturers and retailers could be required to use shelf-life guidelines for specific foods that are pre-set by the government or by authorized private entities.

### 3. *Increase the Use of Safe Handling Instructions and “Smart Labels.”*

As stated above, experts agree that safe handling is the most important factor in keeping food safe. Therefore, including safe handling instructions on packages or other clear, pertinent food safety indicators can help ensure a better consumer experience.

The federal government has already started to explore the possibility of creating a system of labels that independently convey relevant food safety information; these labels would likely emphasize the central importance of storage temperature and storage conditions in improving food safety outcomes.<sup>259</sup> For example, raw meat and poultry packages must be labeled with “Safe Handling Instructions” that remind consumers about the importance of storage temperature, cross-contamination, thorough cooking, and safe holding.<sup>260</sup>

Recognizing the limitations of date labels without any additional knowledge of a food product’s temperature history, several experts have proposed more sophisticated “smart labels” that use technology to indicate the actual storage history of a product, such as the duration at each temperature.<sup>261</sup> One example of this is a “Time-Temperature Integrator” (TTI),<sup>262</sup> a small tag attached to a food product that changes color as a function of time-temperature history.<sup>263</sup> When using a TTI, manufacturers could use a label statement like “Use by MM-DD-YY unless tag turns grey.”<sup>264</sup> A smart label would be more expensive than a date label alone,

but it could be an important tool for conveying useful safety information to consumers while reducing food waste. This technology would be particularly beneficial to use on those foods that pose a high risk to consumer health, such as ready-to-eat foods. In addition to the TTI, other models have been piloted or are in development in the United States and internationally.<sup>265</sup> Increased government funding and research support could help in the development of truly cost-effective smart labels and thereby decrease food safety concerns for those foods identified as being most risky.

Another potential way to convey a product’s manufacturing or storage information would be to use Quick Response Codes (“QR Codes”) to convey any such relevant additional information. QR codes allow a user to “read” a barcode with their smartphone and then be transported to a website. This would allow the manufacturer to deliver ample information without the restrictions of on-package space constraints and would also provide the manufacturer with an additional touch point to the consumer.

## THE ROLE OF INDUSTRY, GOVERNMENT, AND CONSUMERS

Congress, federal administrative agencies, state legislatures, state administrative agencies, the food industry, the non-governmental sector, and consumers all have a role to play in reducing food waste and reforming the American date labeling regime and can start acting now. Solutions targeted at each stakeholder group are included below.

1. *We encourage food industry actors to commit to:*
  - **Converting to a closed-date system for sell by information.** Retailers, distributors, and manufacturers alike should convert all “sell by” or “display until” dates to a closed-date system. With a majority of consumers mistakenly believing “sell by” dates indicate the last day a food can be safely consumed, converting this information to a coded format will avert a significant amount of premature food disposal. This change can and should happen immediately.
  - **Establishing a more standardized, easily understandable consumer-facing dating system.** As time and care will be necessary to establish the most effective system of consumer-facing dates, we encourage businesses to jointly commit to creating a more standardized, less confusing system of date labeling that incorporates the guidelines outlined above. Perfecting such a system will take the input of various parties, and could be done by a multi-stakeholder task force or working group including industry members, policymakers, food safety experts, consumer behavior experts, and consumer advocates.
  - **Selling or donating near-expiration or expired products.** Retailers should create dedicated in-store discount shelves for food near or just past its label date

and, alternatively, sell or donate past-date or soon to be past-date foods to businesses and liquidators that specialize in selling past-date products. The benefits of these practices are threefold: retailers get to recover some revenue that would otherwise never materialize; consumers save money on perfectly edible food, albeit with the knowledge that their purchases may not be at peak quality; and more food is kept out of the waste stream. Moreover, a variety of interventions could be used to help food banks and food recovery organizations utilize past-date foods more efficiently. These changes include disseminating more accurate information about the meaning of date labels, as well as federal and state Good Samaritan protections.

- **Educating consumers on the meaning of expiration dates and on safe food handling.** Point-of-sale displays, informational pamphlets, and online resources are all ways that food companies can help to educate consumers on how to handle food properly and when it can safely be consumed. These materials should distinguish between date labels that measure quality and those that indicate safety to reduce mistaken reliance on quality labels for judgments of food safety risk.<sup>266</sup> Because consumers are still wary about consuming food at or near its label date, the viability of past-date food sales, as well as the success of any new standardized date label regime, is contingent upon increased consumer awareness and education.

2. ***We encourage policy change to be undertaken by the following actors:***

- **Congress:** The most straightforward way to create a uniform date labeling regime would be for Congress to establish a federal law that creates a uniform date labeling framework across all states and all food products. As discussed in the History section, past congressional efforts aimed to create a mandatory federal regime by empowering FDA and USDA to create regulatory requirements. The creation of a similar legislative mandate could be pursued today.
- **FDA, USDA, and other relevant federal agencies:** As described above, under the Food Drug & Cosmetic Act, FDA has both the authority and the responsibility to ensure product labels are not misleading.<sup>267</sup> Like FDA, USDA has existing authority to protect consumers from misleading information on the products under its purview. Given the confusion and misinterpretation that persists, FDA and USDA already have sufficient statutory power to regulate date labels; if they believe they need additional authority to regulate date labels, they should identify any specific gaps. They should then use such authority to promulgate regulations that protect consumers from the misleading information that results from the wide variety of date labeling practices utilized by industry either voluntarily or in response to diverse state regulations.<sup>268</sup>

In order to ensure consistency across products, FDA and USDA should establish a coordinated approach. Congress has given each agency equal power to regulate misbranded food, but in order to improve consumer understanding of date labels, this power should be used to create standardized date labeling requirements that apply in the same manner to all food products, regardless of which agency has jurisdiction. This will help to ensure that consumers can be educated on the meaning of such labels and thus increase food safety and reduce food waste. Once such a new system of date labeling is developed, it should be accompanied by a strong consumer awareness campaign to educate the public on the meaning of the new date labels. Other agencies involved in ensuring food safety, such as the CDC, can assist in these educational efforts as well.

In addition (or in the meantime), since most states adopt some version of the FDA Food Code, FDA should strengthen its Food Code guidance, incorporate the recommendations in this report, and expand the guidance to cover all food products and increase consistency across products, instead of limiting it to only shellfish, refrigerated ready-to-eat -foods, and reduced-oxygen packaged foods.

- **National Conference Weights and Measures/National Institute of Standards and Technology:** We encourage the NCWM and NIST to revise the Model Uniform Open Dating Regulation published in NIST Handbook 130 to disallow open dating of “sell by” information and create more specific guidance for open dates, incorporating the suggestions in this report to ensure the best outcomes for consumers. Creating a multi-stakeholder task force to tackle the issue could help address differing points of view. The NCWM standards exist as a model guide that could be used as a starting point for crafting new federal guidelines, once they are updated according to these recommendations. Significant benefits of the NCWM approach include: (1) limiting the types of permissible date labels and (2) setting baseline requirements for the calculation of label dates.<sup>269</sup>
- **States:** In lieu of overarching federal regulation, creating more consistency across state laws would be another way to improve date labeling rules in all states while creating more nationwide uniformity. We encourage states to coordinate in adopting standard regulations. If NIST Handbook 130 on Uniform Open Dating Regulation is amended, states could follow that guidance. If not, states should adopt laws that call for companies to make the changes recommended in the previous section. At a minimum, states and localities with particularly strict date labeling regulations should consider repealing those regulations that create barriers to uniformity if they do not have health benefits. For example, 20 states restrict the sale or distribution of past-date foods and thereby make food recovery efforts much more difficult.

- **All levels of government:** We encourage all levels of government to conduct public education campaigns to educate consumers on the meaning of date labels, proper food handling, and ways to determine when food is safe to eat.

3. *We encourage consumers and consumer-facing agencies and organizations to act now by:*

- **Educating themselves and their constituents on the meaning of date labels.**

As described above, a majority of Americans mistakenly believe that date labels are indicators of safety rather than indicators of quality.<sup>270</sup> Learning what dates actually mean will help consumers to make better food safety decisions, and will also reduce premature disposal of products, saving people money in the process. In particular, consumers should educate themselves about “sell by” dates, which are indicators of stock rotation and not of product quality or safety.

- **Educating themselves and their constituents on safe food handling and consumption, including proper refrigeration temperatures.** Many consumers are not aware that storage temperature is the main factor impacting food safety, rather than the amount of time

that has passed since the product's production.<sup>271</sup> Understanding the time/temperature relationship to food safety and the critical importance of keeping refrigerators at temperatures below 40° Fahrenheit is key to preserving food safely.<sup>272</sup> People under 35 years of age have been identified as a demographic that could particularly benefit from more intensive food safety education.<sup>273</sup>

- **Learning to tell when food can still be safely consumed.** There are a variety of resources to help consumers learn how to assess the safety of food. These include the FMI's Foodkeeper Guide, which lists generic shelf lives of common products,<sup>274</sup> and resources that indicate visual red flags for microbial contamination, such as USDA's Kitchen Companion Safe Food Handbook.<sup>275</sup> These types of tools can help consumers reduce their reliance on date labels for food safety judgments and make better food safety decisions.

We have a significant challenge ahead in order to make a dent in the 40 percent of food that currently goes uneaten in the United States. There is no reason to wait—improving upon the convoluted and ineffective system of date labels is one of the more straightforward ways we can address this issue, while providing a service to consumers by improving both food safety outcomes and economic impacts.

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# APPENDIX A: CONGRESSIONAL DELEGATION OF FOOD LABELING AUTHORITY TO AGENCIES

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## FOOD AND DRUG ADMINISTRATION

**Food, Drug and Cosmetic Act. 21 U.S.C. §§ 301 et seq. (2012).**

*Definition of misleading.* 21 U.S.C. § 321(n) (2012).

(n) If an article is alleged to be misbranded because the labeling or advertising is misleading, then in determining whether the labeling or advertising is misleading there shall be taken into account (among other things) not only representations made or suggested by statement, word, design, device, or any combination thereof, but also the extent to which the labeling or advertising fails to reveal facts material in the light of such representations or material with respect to consequences which may result from the use of the article to which the labeling or advertising relates under the conditions of use prescribed in the labeling or advertising thereof or under such conditions of use as are customary or usual.

*Prohibited acts.* 21 U.S.C. § 331 (2012).

(b) The following acts and the causing thereof are prohibited . . . The adulteration or misbranding of any food, drug, device, tobacco product, or cosmetic in interstate commerce. Food “shall be deemed to be misbranded . . . if (1) its labeling is false or misleading in any particular, or (2) in the case of a food to which section 350 of this title applies, its advertising is false or misleading in a material respect or its labeling is in violation of section 350(b)(2) of this title.

*Definitions and standards for food.* 21 U.S.C. § 341 (2012).

Whenever in the judgment of the Secretary such action will promote honesty and fair dealing in the interest of consumers, he shall promulgate regulations fixing and establishing for any food, under its common or usual name so far as practicable, a reasonable definition and standard of identity, a reasonable standard of quality, or reasonable standards of fill of container.

*Misbranded food.* 21 U.S.C. § 343 (2012).

A food shall be deemed to be misbranded—(a) False or misleading label. If (1) its labeling is false or misleading in any particular, or (2) in the case of a food to which section 411 [21 USCS § 350] applies, its advertising is false or misleading in a material respect or its labeling is in violation of section 411(b)(2) [21 USCS § 350(b)(2)].

**Infant Formula Act. 21 U.S.C. § 350a (2012).**

(a) Adulteration

An infant formula, including an infant formula powder, shall be deemed to be adulterated if—

- (1) such infant formula does not provide nutrients as required by subsection (i) of this section,
- (2) such infant formula does not meet the quality factor requirements prescribed by the Secretary under subsection (b)(1) of this section, or
- (3) the processing of such infant formula is not in compliance with the good manufacturing practices and the quality control procedures prescribed by the Secretary under subsection (b)(2) of this section.

(b) Requirements for quality factors, good manufacturing practices, and retention of records

- (1) The Secretary shall by regulation establish requirements for quality factors for infant formulas to the extent possible consistent with current scientific knowledge, including quality factor requirements for the nutrients required by subsection (i) of this section.

*Labeling requirements, directions for use.* 21 C.F.R. § 107.20 (2013).

(c) A “Use by \_\_\_” date, the blank to be filled in with the month and year selected by the manufacturer, packer, or distributor of the infant formula on the basis of tests or other information showing that the infant formula, until that date, under the conditions of handling, storage, preparation, and use prescribed by label directions, will: (1) when consumed, contain not less than the quantity of each nutrient, as set forth on its label; and (2) otherwise be of an acceptable quality (e.g., pass through an ordinary bottle nipple).

## U.S. DEPARTMENT OF AGRICULTURE

### ***Poultry Products Inspection Act 21 U.S.C. §§ 451 et seq. (2012).***

*Definition of misleading.* 21 U.S.C. § 453(h) (2012).

(h) The term “misbranded” shall apply to any poultry product under one or more of the following circumstances:

- (1) if its labeling is false or misleading in any particular.

*Use of trade names; false or misleading marking or labeling; misleading form or size of container.* 21 U.S.C. § 457 (2012).

(c) No article subject to this chapter shall be sold or offered for sale by any person in commerce, under any name or other marking or labeling which is false or misleading, or in any container of a misleading form or size, but established trade names and other marking and labeling and containers which are not false or misleading and which are approved by the Secretary are permitted.

*False or misleading labeling or containers.* 9 C.F.R. § 381.129 (2013).

(c) A calendar date may be shown on labeling when declared in accordance with the provisions of this paragraph:

- (1) The calendar date shall express 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 in metal or glass containers, dried or frozen products, or any other products that the Administrator finds should be labeled with the year because the distribution and marketing practices with respect to such products may cause a label without a year identification to be misleading.

- (2) Immediately adjacent to the calendar date shall be a phrase explaining the meaning of such date in terms of “packing” date, “sell by” date, or “use before” date, with or without a further qualifying phrase, e.g., “For Maximum Freshness” or “For Best Quality”, and such phrases shall be approved by the Administrator as prescribed in § 381.132.

*Date of packing and date of processing; contents of cans.* 9 C.F.R. § 381.126 (2013).

(a) Either the immediate container or the shipping container of all poultry food products shall be plainly and permanently marked by code or otherwise with the date of packing. If calendar dating is used, it must be accompanied by an explanatory statement, as provided in § 381.129(c)(2).

(b) The immediate container for dressed poultry shall be marked with a lot number which shall be the number of the day of the year on which the poultry was slaughtered or a coded number.

(c) All canned products shall be plainly and permanently marked, by code or otherwise, on the containers, with the identity of the contents and date of canning, except that canned products packed in glass containers are not required to be marked with the date of canning if such information appears on the shipping container. If calendar dating is used, it must be accompanied by an explanatory statement, as provided in § 381.129(c)(2).

(d) If any marking is by code, the inspector in charge shall be informed as to its meaning.

### ***Federal Meat Inspection Act. 21 U.S.C. §§ 601 et seq. (2012).***

*Labeling, marking, and container requirements.* 21 U.S.C. § 607 (2012).

(e) If the Secretary has reason to believe that any marking or labeling or the size or form of any container in use or proposed for use with respect to any article subject to this subchapter is false or misleading in any particular, he may direct that such use be withheld unless the marking, labeling, or container is modified in such manner as he may prescribe so that it will not be false or misleading.

*False or misleading labeling or practices generally; specific prohibitions and requirements for labels and containers.* 9 C.F.R. § 317.8 (2013).

(32) A calendar date may be shown on labeling when declared in accordance with the provisions of this subparagraph:

- (i) The calendar date shall express 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 in metal or glass containers, dried or frozen products, or any other products that the Administrator finds should be labeled with the year because the distribution and marketing practices with respect to such products may cause a label without a year identification to be misleading.

- (ii) Immediately adjacent to the calendar date shall be a phrase explaining the meaning of such date, in terms of

“packing” date, “sell by” date, or “use before” date, with or without a further qualifying phrase, e.g., “For Maximum Freshness” or “For Best Quality”, and such phrases shall be approved by the Administrator as prescribed in § 317.4.

*False or misleading labeling or practices generally; specific prohibitions and requirements for labels and containers.* 9 C.F.R. § 317.8 (2013).

(a) No product or any of its wrappers, packaging, or other containers shall bear any false or misleading marking, label, or other labeling and no statement, word, picture, design, or device which conveys any false impression or gives any false indication of origin or quality or is otherwise false or misleading shall appear in any marking or other labeling. No product shall be wholly or partly enclosed in any wrapper, packaging, or other container that is so made, formed, or filled as to be misleading.

***USDA Labeling Approval (Meat and Poultry). 9 C.F.R. § 317.4 (2013).***

(a) No final labeling shall be used on any product unless the sketch labeling of such final labeling has been submitted for approval to the Food Labeling Division, Regulatory Programs, Food Safety and Inspection Service, and approved by such division, accompanied by FSIS form, Application for Approval of Labels, Marking, and Devices, except for generically approved labeling authorized for use in § 317.5(b). The management of the official establishment or establishment certified under a foreign inspection system, in accordance with part 327 of this subchapter, must maintain a copy of all labeling used, along with the product formulation and processing procedure, in accordance with part 320 of this subchapter. Such records shall be made available to any duly authorized representative of the Secretary upon request.

(b) The Food Labeling Division shall permit submission for approval of only sketch labeling, as defined in § 317.4(d), for all products, except as provided in § 317.5(b) (2)–(9) and except for temporary use of final labeling as prescribed in paragraph (f) of this section.

(c) All labeling required to be submitted for approval as set forth in § 317.4(a) shall be submitted in duplicate to the Food Labeling Division, Regulatory Programs, Food Safety and Inspection Service, U.S. Department of Agriculture, Washington, DC 20250. A parent company for a corporation may submit only one labeling application (in duplicate form) for a product produced in other establishments that are owned by the corporation.

(d) “Sketch” labeling is a printer’s proof or equivalent which clearly shows all labeling features, size, location, and indication of final color, as specified in § 317.2. FSIS will accept sketches that are hand drawn, computer generated or other reasonable facsimiles that clearly reflect and project the final version of the labeling. Indication of final color may be met by: submission of a color sketch, submission of a sketch which indicates by descriptive language the final colors, or submission with the sketch of previously approved final labeling that indicates the final colors.

(e) Inserts, tags, liners, pasters, and like devices containing printed or graphic matter and for use on, or to be placed within, containers and coverings of product shall be submitted for approval in the same manner as provided for labeling in § 317.4(a), except that such devices which contain no reference to product and bear no misleading feature shall be used without submission for approval as prescribed in § 317.5(b)(7).

(f)(1) Consistent with the requirements of this section, temporary approval for the use of a final label or other final labeling that may otherwise be deemed deficient in some particular may be granted by the Food Labeling Division. Temporary approvals may be granted for a period not to exceed 180 calendar days, under the following conditions:

- (i) The proposed labeling would not misrepresent the product;
- (ii) The use of the labeling would not present any potential health, safety, or dietary problems to the consumer;
- (iii) Denial of the request would create undue economic hardship; and
- (iv) An unfair competitive advantage would not result from the granting of the temporary approval.

(2) Extensions of temporary approvals may also be granted by the Food Labeling Division provided that the applicant demonstrates that new circumstances, meeting the above criteria, have developed since the original temporary approval was granted.



(g) The inspector-in-charge shall approve meat carcass ink brands and meat food product ink and burning brands, which comply with parts 312 and 316 of this subchapter.

***Egg Products Inspection Act. 21 U.S.C. §§ 1031 et seq. (2012).***

*False or misleading or use of nonapproved labeling or containers; determination by Secretary; procedures applicable; appeal. 21 U.S.C. §§ 1036 (2012).*

(b) No labeling or container shall be used for egg products at official plants if it is false or misleading or has not been approved as required by the regulations of the Secretary. If the Secretary has reason to believe that any labeling or the size or form of any container in use or proposed for use with respect to egg products at any official plant is false or misleading in any particular, he may direct that such use be withheld unless the labeling or container is modified in such manner as he may prescribe so that it will not be false or misleading.

***Perishable Agricultural Commodities Act. 7 U.S.C. § 499a et seq. (2012).***

*Unfair conduct. 7 U.S.C. § 499b (2012).*

(4) For any commission merchant, dealer, or broker to make, for a fraudulent purpose, any false or misleading statement in connection with any transaction involving any perishable agricultural commodity which is received in interstate or foreign commerce by such commission merchant, or bought or sold, or contracted to be bought, sold, or consigned, in such commerce by such dealer, or the purchase or sale of which in such commerce is negotiated by such broker; or to fail or refuse truly and correctly to account and make full payment promptly in respect of any transaction in any such commodity to the person with whom such transaction is had; or to fail, without reasonable cause, to perform any specification or duty, express or implied, arising out of any undertaking in connection with any such transaction; or to fail to maintain the trust as required under section 499e (c) of this title.

**FEDERAL TRADE COMMISSION**

***Federal Trade Commission Act. 15 U.S.C. § 45 et seq. (2012).***

*Declaration of unlawfulness; power to prohibit unfair practices; inapplicability to foreign trade. 15 U.S.C. § 45 (a) (2012).*

(1) Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.

(2) The Commission is hereby empowered and directed to prevent persons, partnerships, or corporations, except banks, savings and loan institutions described in section 57a (f)(3) of this title, Federal credit unions described in section 57a (f)(4) of this title, common carriers subject to the Acts to regulate commerce, air carriers and foreign air carriers subject to part A of subtitle VII of title 49, and persons, partnerships, or corporations insofar as they are subject to the Packers and Stockyards Act, 1921, as amended [7 U.S.C. 181 et seq.], except as provided in section 406(b) of said Act [7 U.S.C. 227 (b)], from using unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce.

***Fair Packaging and Labeling Act. 15 U.S.C. § 1451 et seq. (2012).***

*Scope of additional regulations. 15 U.S.C. § 1454 (2012).*

(c) Whenever the promulgating authority determines that regulations containing prohibitions or requirements other than those prescribed by section 1453 of this title are necessary to prevent the deception of consumers or to facilitate value comparisons as to any consumer commodity, such authority shall promulgate with respect to that commodity regulations effective . . .

## APPENDIX B: STATE REQUIREMENTS IN BRIEF; SUPPORTING CHARTS FOR FIGURES 2 AND 3.

Supporting Chart for Figure 2

STATE	NO REQUIREMENT	DATE LABELS REQUIRED	FOODS FOR WHICH DATE IS REQUIRED	STATE	NO REQUIREMENT	DATE LABELS REQUIRED	FOODS FOR WHICH DATE IS REQUIRED
ALABAMA	X			NEVADA		X	Milk; potentially hazardous foods
ALASKA		X	Shellfish	NEW HAMPSHIRE		X	Cream; prewrapped sandwiches
ARIZONA		X	Eggs	NEW JERSEY		X	Milk/dairy; shellfish
ARKANSAS		X	Shellfish	NEW MEXICO		X	Milk/dairy
CALIFORNIA		X	Milk/dairy; Shellfish	NEW YORK	X		
COLORADO		X	Eggs	NORTH CAROLINA		X	Shellfish
CONNECTICUT		X	Milk/dairy	NORTH DAKOTA		X	Shellfish
DELAWARE		X	Shellfish	OHIO		X	Packaged perishable foods; shellfish
FLORIDA		X	Shellfish; milk/dairy	OKLAHOMA		X	Eggs; shellfish
GEORGIA		X	Eggs; milk; shellfish; prepackaged sandwiches	OREGON		X	Packaged perishable foods
HAWAII		X	Milk	PENNSYLVANIA		X	Milk/dairy; shellfish
IDAHO	X			RHODE ISLAND		X	Packaged bakery products; shellfish
ILLINOIS	X			SOUTH CAROLINA		X	Eggs; shellfish
INDIANA		X	Eggs; shellfish	SOUTH DAKOTA	X		
IOWA		X	Eggs	TENNESSEE	X		
KANSAS		X	Eggs	TEXAS		X	Shellfish
KENTUCKY		X	Milk; shellfish	UTAH	X		
LOUISIANA		X	Eggs	VERMONT		X	Shellfish
MAINE		X	Shellfish	VIRGINIA		X	Dairy; shellfish
MARYLAND		X	Milk (Grade A)	WASHINGTON		X	Packaged perishable foods
MASSACHUSETTS		X	Packaged perishable or semi-perishable foods	WASHINGTON, D.C.		X	Potentially hazardous foods, dairy, meat, poultry, fish, bread products, eggs, cold meats, packaged perishable foods, shellfish etc.
MICHIGAN		X	Pre-packaged perishable foods; milk/dairy	WEST VIRGINIA		X	Eggs
MINNESOTA		X	Eggs; perishable foods; shellfish	WISCONSIN		X	Eggs; shellfish
MISSISSIPPI		X	Shellfish	WYOMING		X	Shellfish
MISSOURI	X						
MONTANA		X	Milk/dairy				
NEBRASKA	X						

### Supporting Chart for Figure 3

STATE	NO REGULATION	PAST-DATE SALES REGULATED	FOODS FOR WHICH SALE AFTER DATE IS RESTRICTED	STATE	NO REGULATION	PAST-DATE SALES REGULATED	FOODS FOR WHICH SALE AFTER DATE IS RESTRICTED
ALABAMA		X	Meat, Class A foods (baby food, infant formula, potentially hazardous foods)	MISSOURI	X		
ALASKA	X			MONTANA		X	Milk
ARIZONA	X			NEBRASKA	X		
ARKANSAS	X			NEVADA		X	Potentially hazardous foods
CALIFORNIA	X			NEW HAMPSHIRE		X	Pre-wrapped sandwiches
COLORADO		X	Eggs	NEW JERSEY		X	Milk
CONNECTICUT	X			NEW MEXICO		X	Milk/dairy
DELAWARE	X			NEW YORK	X		
FLORIDA		X	Shellfish and milk/dairy	NORTH CAROLINA	X		
GEORGIA		X	Eggs, infant formula, shellfish, milk, potentially hazardous foods, pre-packaged sandwiches	NORTH DAKOTA	X		
HAWAII	X			OHIO	X		
IDAHO	X			OKLAHOMA	X		
ILLINOIS		X	Eggs	OREGON		X	Packaged perishable foods
INDIANA	X			PENNSYLVANIA		X	Milk
IOWA	X			RHODE ISLAND		X	Packaged bakery products
KANSAS	X			SOUTH CAROLINA	X		
KENTUCKY		X	Milk/milk products	SOUTH DAKOTA	X		
LOUISIANA	X			TENNESSEE	X		
MAINE	X			TEXAS	X		
MARYLAND		X	Milk	UTAH	X		
MASSACHUSETTS		X	All food products (special focus on perishable and semi-perishable foods)	VERMONT	X		
MICHIGAN		X	Pre-packaged perishable foods, meat, milk/dairy	VIRGINIA		X	Dairy
MINNESOTA	X			WASHINGTON		X	Perishable packaged foods
MISSISSIPPI	X			WASHINGTON, D.C.		X	Potentially hazardous foods, dairy, meat, poultry, fish, bread products, eggs, cold meats, packaged perishable foods, etc.
				WEST VIRGINIA	X		
				WISCONSIN		X	Eggs
				WYOMING	X		

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# APPENDIX C: STATE DATE LABELING REGULATIONS IN FULL

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## EXPLANATION OF QUALIFICATIONS FOR APPLICABLE REGULATIONS

This table includes information from all 50 states and the food products for which they regulate date labeling. Though this research is detailed, it is not complete and not all food products are covered in the following pages. Some food products that are *not* included in this appendix are:

- Reduced-oxygen packaged foods, which are regulated in many states
- Refrigerated, ready-to-eat, potentially hazardous foods
- Infant formula, which already requires a “use by” date under federal law<sup>276</sup>
- Salvageable merchandise, which could require further labeling information for foods sold after date
- Very specific foods items that are unique to a few states (e.g. fresh-squeezed juices)

In addition, the legal language included herein is excerpted from the laws and thus may be incomplete in some places.

## HOW TO USE THIS TABLE

- The table is divided into four columns:
  - 1) Column I (Applies to Food Type) specifies the type of food to which the state law applies. “General” refers to regulations that are not associated with a specific food but apply to all food types; otherwise the specific food type will be stated.
  - 2) Column II (Purpose of Law) provides broad information about the relevant section of the law as applied to the particular food, specifying whether or not date labeling is required, whether or not sale after the date is restricted (and any exemptions); and whether or not alteration of date labels is permitted, when relevant. The term “date labels” is used generally in this column to include all terms, such as “sell by,” “use by,” “best before,” etc., even if the law itself may be more specific
  - 3) Column III (Excerpted Language from the Law) contains excerpts of the exact language from the law or regulation.
  - 4) Column IV (Legal Citation) contains the citation to the relevant section of state law or regulation.
- States with an “\*” after them have adopted some version of the Open Dating regulation contained in the Uniform Packaging and Labeling Regulation in NIST Handbook 130, according to the 2013 edition of the Handbook.<sup>277</sup>
- States with no current regulations according to the qualifications assessed in this report contain “- -” under each column.

\*\*The information contained herein is current as of August 2013.

**STATE DATE LABELING REGULATIONS**

I. APPLIES TO FOOD TYPE	II. PURPOSE OF LAW	III. EXCERPTED LANGUAGE FROM THE LAW	IV. LEGAL CITATION
ALABAMA			
<b>General</b>	Definition (date limit)	(4)(a)(8) "Date limit" means all terms reasonably construed to mean food is not intended to be used or sold after the date limit, or that food quality is best before the date limit, and includes but is not limited to the terms "Sell By;" "Freeze By;" "Sell or Freeze By;" "Not to be Sold After;" "Best if Used By;" "Best if Purchased By," "Expiration;" or other similar designations.	ALA ADMIN CODE r. 420-3-22.01 (2013).
	Definition (open-date statement)	(14) Open-date statement. Terms "Sell By"; "Freeze By"; "Sell or Freeze By"; "Not to be Sold After"; "Best if Used By"; "Expiration"; or other terms as defined by rules or regulations; or a date without additional words shall be considered an open-date statement	ALA. CODE § 20-1-20 (2013).
	Additional descriptive terms (open-date statement)	(1) In addition to the terms listed in §20-1-20 (definitions) for (14) open date statements, the following list of terms and other terms with similar import, shall also be included and considered as open date statements: (a) "For full fresh flavor use by" (b) "For best quality purchase and use by date shown" (c) "Use/freeze by" (d) "Prepare or freeze by" (e) "For wholesome great taste, serve before date stamped below" (f) "Best when purchase by date" (g) "Best if sold by" (h) "Best used by" (i) "Product expiration" (j) "Expiration date" (k) "Best by" (l) "Best before" (m) "Best when purchase by" (n) "Use before" (o) "Use by" (p) "Full freshness until date shown when stored unopened at 40 or below" (q) "Prepare by" (r) "Fresh until" (s) "Use or freeze by" (t) "Sell or use by" (u) "Freshness through"	ALA. ADMIN. CODE r. 80-1-22-.33 (2013).
	Alteration of date labels not permitted	No person shall engage in any of the following activities within this state: . . . (3)a. Obscure, remove, or otherwise render illegible any information appearing on beverage labels, packages, or containers related to production information, best before dates, or other disclosure printed on, affixed to, or appearing on the labels, packages, or containers. b. This subdivision shall not apply to any alteration of a beverage label, package, or container made by, or at the direction of, either the owner of the trademark rights to the brand that appears on the beverage label, package, or container or an authorized manufacturer of the beverage. c. This subdivision shall not apply to alcoholic beverages as defined in Section 28-3-1. d. This subdivision shall not apply to any entity, organization, or association, including, but not limited to, a nonprofit or other fund-raising organization that does not operate for a commercial purpose. (4)a. Store or transport any beverage product that bears a labeling that has been obscured, removed, or rendered illegible as described in subdivision (3). b. This subdivision shall not apply to any alteration of a beverage label, package, or container made by, or at the direction of, either the owner of the trademark rights to the brand that appears on the beverage label, package, or container or an authorized manufacturer of the beverage.	Ala. Code § 20-1-27 (2013).

<b>Class A Foods</b>	Definition (class A foods)	(4) Class A foods. Baby food, infant formula, and potentially hazardous food.	ALA. CODE § 20-1-20 (2013).
	Date labeling not required	<i>Date labeling not required for Class A food products in Alabama (with the exception of infant formula, which is federally regulated).<sup>1</sup></i>	No relevant state law.
	Sale after date not permitted	No person shall engage in any of the following activities within this state: . . . (2) Sell or offer for sale out-of-date Class A foods which include baby food, infant formula, and potentially hazardous food.	Ala. Code § 20-1-27 (2013).
	Alteration of date labels not permitted (potentially hazardous foods)	(1) Packages of potentially hazardous foods bearing an open date statement are not to be repacked or relabeled or otherwise altered in a manner that would change the open date statement originally placed on the package. It is not permissible to reprocess products by freezing, slicing, grinding, cubing, dicing, marinating, chopping, or other similar methods unless the original open date statement is maintained on the product label.	ALA. ADMIN. CODE r. 80-1-22-.36 (2013).
<b>Meat Products</b>	Date labeling not required	<i>Date labeling not required for meat products in Alabama.</i>	<i>No relevant state law.</i>
	Sale after date not permitted	(4) It is not permissible to freeze, sell, or offer for sale any ready-to-eat meat product after the expiration of the open-date statement. It is not permissible to freeze, sell, or offer for sale a product having the appearance of a ready-to-eat meat product (e.g., smoked sausages and smoked hams) after the expiration of the open-date statement unless such product bears labeling to include safe handling statements and proper cooking instructions.	ALA. ADMIN. CODE r. 80-1-22-.36 (2013).
	Sale after date not permitted –exemptions	(3) Any rule in this chapter to the contrary notwithstanding, meat products bearing an open-date statement may be frozen and sold after the original expiration date only if all the following stipulations are met: (a) The product is a fresh or raw meat product that is frozen prior to the expiration of the open-date statement. (b) The product is labeled “Frozen on _____,” with the month, day, and year the product is frozen in the blank. (c) The original open-date statement is maintained on the product package. (d) If offered for sale at retail, the product is frozen and labeled and sold only to a household consumer by the same establishment that originally offered the product for retail sale. (e) If offered for sale at wholesale (i.e., warehouse, manufacturer, or distributor) the product is frozen and labeled and sold only to the end user (i.e., consumer, restaurant, or hotel). Provided however that consumer ready packages of fresh or raw meat can be sold to retail establishments if all other provisions of this rule are followed and each package is properly labeled. (f) Products frozen before the expiration of the open-date statement may not be thawed or further processed in any manner. (g) All products properly frozen and labeled must also maintain the safe handling labels as mandated through USDA. (h) Products not properly labeled, re-labeled or exempted as set forth in (a) through (h) of this rule shall be deemed date expired and shall be included in the equivalent number utilized to determine the applicable class of violation as determined by Rule No. 80-1-22-.32. (i) Nothing in this paragraph (3) of Rule 80-1-22-.36 shall preclude a manufacturer or wholesaler or retailer from having more stringent requirements for their products. Nothing in this paragraph is intended to negate the agreement between sellers of these products concerning guarantees or credit for expired products.	ALA. ADMIN. CODE r. 80-1-22-.36 (2013).
ALASKA			
<b>Shellfish</b>	Date labeling required	(c) In addition to meeting the requirements of (a) and (b) of this section, the operator of a food establishment shall obtain . . . (6) molluscan shellfish that are . . . packaged and identified as follows: (A) fresh or frozen shucked molluscan shellfish packaged in a single-use container with a label that identifies the name, address, and permit number of the shucker-packer or repacker of the molluscan shellfish, and either the sell-by date or the date shucked;	ALASKA ADMIN. CODE tit. 18, §31.200 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Alaska.</i>	<i>No relevant state law.</i>

ARIZONA			
<b>Eggs</b>	Definition (Expiration date)	13. "Expiration date" means the words "sell by" or "buy thru" followed by a date, including the month and day, that is not more than twenty-four days after the eggs were candled and that includes the date the eggs were candled.	ARIZ. REV. STAT. ANN. § 3-701 (2013).
	Date labeling required	E. Cases, half cases, cartons or containers marked grade AA or grade A shall be marked with an expiration date. F. The expiration date marked on a case, half case or container holding fifteen dozen eggs or more shall be plainly and conspicuously marked in bold-faced type not less than three-eighths inch in height on one outward end of the case or container. G. The expiration date marked on a carton or container holding less than fifteen dozen eggs shall be plainly and conspicuously marked in bold-faced type not less than one-eighth inch in height on one end of the outward top face of each carton and on one outward end or the outward top of each container.	ARIZ. REV. STAT. ANN. § 3-719 (2013).
	Sale after date not restricted	Not restricted for eggs in Arizona.	No relevant state law.
ARKANSAS*			
<b>Shellfish</b>	Date labeling required	(A) Raw SHUCKED SHELLFISH shall be obtained in nonreturnable packages which bear a legible label that identifies the: . . . (2) The "sell by" or "best used by" date for packages with a capacity of less than 1.89 L (one-half gallon) or the date shucked for packages with a capacity of 1.89 L (one-half gallon) or more	ARK. CODE ANN. § 007-04-8 3-202.17 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Arkansas.</i>	<i>No relevant state law.</i>
CALIFORNIA			
<b>Milk/Dairy</b>	Date labeling required	(a) At the time of sale to the consumer . . . there shall appear upon the package or container of such product the date established by the processor as the date upon which, in order to insure quality, such product is normally removed from the shelf	CAL. FOOD & AGRIC. CODE § 36004 (2013).
	Date labeling required (scope of law)	(a) Except as otherwise provided in Food and Agricultural Code Section 36004(c), the licensed milk products plant which bottles or packages the following products shall be responsible for affixing the quality assurance date to all containers which are offered for sale to the consumer by a retail store: market milk, market cream, skim or non-fat milk, half and half, sour cream, sour cream dressing, low-fat milk, flavored milk, flavored dairy drink, yogurt, concentrated milk, concentrated skim milk, acidophilus milk, buttermilk and cultured buttermilk, cottage cheese, creamed cottage cheese, homogenized creamed cottage cheese spread, and partially creamed or low-fat cottage cheese. (b) The quality assurance date shall be readily identifiable by the consumer. If a numerical sequence of months and days is used, it may not be located on the container with other numbers such as factory license number or lot numbers unless such other numbers are clearly identified. If the quality assurance date is used with unidentified code numbers, the date shall be at least the first three letters of the month followed by the day of the month.	CAL. CODE REGS. tit. III, § 627 (2013).
	Sale after date not restricted	<i>Not restricted for milk in California.</i>	<i>No relevant state law.</i>
<b>Shellfish</b>	Date labeling required	(a) Raw shucked shellfish shall be obtained in nonreturnable packages that bear a legible label that identifies . . . a "sell by" date or a "best if used by" date for packages with a capacity of less than one-half gallon, or the date shucked for packages with a capacity of one-half gallon or more.	CAL. HEALTH & SAFETY CODE § 114039 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in California.</i>	<i>No relevant state law.</i>
COLORADO			
<b>General</b>	Alteration of date labels not permitted	A. When voluntary code date information appears on a retail food establishment or manufacturers' label, it shall not be concealed or altered.	6 COLO. CODE REGS. § 1010-2-3-701 (2013).

<b>Eggs</b>	Date labeling required	<b>3.2 PACK DATE REQUIREMENTS</b> Every case, carton, or container of shell eggs at the time of packing shall have legibly printed thereon, in numerals not less than one-eighth inch in height, the date the eggs are first packed, which shall be referred to in these rules as the "pack date." The pack date shall be stated numerically by month and day (e.g., 1/15), or by the numbered consecutive day of the year (e.g., 123, being the 123rd consecutive day of the year).	8 COLO. CODE REGS. § 1202-10:3.0 (2013).
	Further date labeling optional (formatting specified if used)	<b>3.3 SELL-BY DATE REQUIREMENTS</b> Every case, carton, or container of shell eggs may, but need not have legibly printed thereon, . . . a date by which the eggs must be sold, which shall be referred to in these rules as the "sell-by date." The sell-by date shall be no more than 30 days after the pack date. It shall be stated by month and day using the three-letter abbreviation of the month followed by the numerical day of the month (e.g., Jan 15), and preceded by the term SELL BY or EXP.	8 COLO. CODE REGS. § 1202-10:3.0 (2013).
	Sale after date not permitted	4.1 No shell eggs may be offered for sale or sold to a consumer or restaurant more than 45 days after the pack date.	8 COLO. CODE REGS. § 1202-10:4.0 (2013).
<b>CONNECTICUT*</b>			
<b>Milk/Dairy</b>	Date labeling required	Each person, handler, firm or corporation shall clearly mark each container of milk or milk product, cream, yogurt, cream cheese, cottage cheese, ricotta cheese, soft cheese, eggnog or sour cream offered for retail sale with a last sale date. In accordance with the provisions of chapter 54, the Milk Regulation Board shall adopt regulations establishing standards and criteria for label type size, color and wording that is consistent with national standards and said board may incorporate by reference The Nutritional Education and Labeling Act, 21 CFR 101.	CONN. GEN. STAT. ANN. § 22-197b (2013).
		(b) Products not manufactured, packaged and heat treated in a manner that makes the product safe to store at room temperature shall be conspicuously labeled with a last sale date. The last sale date shall be shown in contrasting color with the background. The last sale date shall be expressed as "sell by", "last sale date" or "must be sold by".	CONN. AGENCIES REGS. §22-133-131 (2013).
	Alteration of date labels not permitted	(f)	CONN. AGENCIES REGS. § 22-133-123 (2013).
	Sale after date not restricted	<i>Not restricted for milk in Connecticut.</i>	<i>No relevant state law.</i>
<b>DELAWARE</b>			
<b>Shellfish</b>	Date labeling required	(A) Raw shucked shellfish shall be obtained in nonreturnable packages which bear: . . . (2) The "sell by" date for packages with a capacity of less than 1.87 L (one-half gallon) or the date shucked for packages with a capacity of 1.87 L (one-half gallon) or more.	4000 DEL. ADMIN. CODE §3-202.17 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Delaware.</i>	<i>No relevant state law.</i>
<b>FLORIDA</b>			
<b>Shellfish</b>	Definition (terminal sale date)	(65) Terminal sale date - the last day freshly packed shellfish shall be offered for sale; that being no more than 14 calendar days subsequent to the date the product was shucked, or for oyster shellstock harvested from the Gulf of Mexico, no more than 14 days subsequent to the date shellstock was harvested.	FLA. ADMIN. CODE ANN. r. 5L-1.002 (2013).
	Date labeling required	(1) . . . Containers of fresh shellfish, with a capacity of less than 64 ounces, shall further clearly and permanently bear the terminal sale date, by the numerical month, day, and last digit of the year.	FLA. ADMIN. CODE ANN. r. 5L-1.007 (2013).
	Sale after date not permitted	(11) It shall be unlawful for any person, firm, corporation, wholesale or retail dealer to sell or offer for sale any fresh shellfish after the terminal sale date has expired, or sell or offer for sale any fresh, frozen, or previously frozen shellfish not in compliance with any and all requirements of Chapter 5L-1, F.A.C.	FLA. ADMIN. CODE ANN. r. 5L-1.007 (2013).



<b>Milk/Dairy</b>	Date labeling required	(1)(a) All milk and milk products shall be legibly labeled with their shelf-life date. The date or date code for frozen desserts and other manufactured milk products shall be approved by the department and shall indicate the date of manufacture of the product or the last day the product is to be offered for sale.	FLA. ADMIN. CODE ANN. r. 5D-1.007 (2013).
	Sale after date not permitted	(1)(e) No milk or milk products shall be offered for sale as a grade A product after the shelf-life expiration date shown on the container. All milk and milk products offered for sale after the shelf-life expiration date will be deemed to be misbranded and subject to be impounded and made unsalable or otherwise disposed of by the department, under the provisions of Section 502.231, F.S. (1)(f) This rule does not apply to containers of milk or milk products which are not to be sold in the State of Florida.	FLA. ADMIN. CODE ANN. r. 5D-1.007 (2013).
<b>GEORGIA</b>			
<b>General</b>	Definition (expiration date)	(35) "Expiration Date" is synonymous with Pull Date, Best-By Date, Best Before Date, Use-By Date, and Sell-By Date; and means the last date on which the following FOOD products can be sold at retail or wholesale: (a) Prepackaged sandwiches; (b) Eggs, (c) Infant formula, (d) Shucked oysters, (e) Milk, and (f) POTENTIALLY HAZARDOUS FOOD	GA. COMP. R. & REGS. 40-7-1-.02 (2013).
<b>Eggs</b>	Date labeling required	All eggs that are sold, offered for sale or stored for sale at retail or wholesale shall use an Open Date to express the packing date or the expiration date . . . (d) Manner of Expressing the Expiration Date: An Expiration Date shall be the use of an Open Date (as defined in 40-3-1-.01(b) of these Regulations) preceded by the abbreviation "Exp." [Example: EXP Jun 10] or the use of an Open Date (as defined in 40-3-1-.01(b) of these Regulations) preceded by the term "Sell By" [Example: Sell by JUN 10], or "Not to be Sold After" [Example: Not to be Sold After JUN 10]; or "Best Before" [Example: Best Before JUN 10] or words of similar import.	GA. COMP. R. & REGS. 40-3-1.01 (2013).
	Sale after date not permitted	(e) Prohibited Acts: The following acts and the causing thereof are hereby prohibited. 1. Eggs are not to be sold or offered for sale at retail or wholesale after the expiration date. 2. Eggs are not to be sold or offered for sale that do not meet the U.S. Standards, Grades, and Weight Classes for Shell Eggs Part 56, Subpart C, Paragraphs 56.216 and 56.217 established pursuant to the Federal Agricultural Marketing Act of 1946;	GA. COMP. R. & REGS. 40-3-1-.01 (2013).
		(2) (c) EGGS cannot be offered or held for sale after the EXPIRATION DATE, according to Departmental Rules Chapter 40-3-1-.01(e)1.	GA. COMP. R. & REGS. 40-7-1-.2 (2013).
<b>Infant formula</b>	Date labeling required	(2) (a) Infant Formula. <sup>2</sup> 1. Each and every container of liquid or powdered infant formula made from two or more ingredients and represented as or intended as a replacement or supplement for milk, shall conspicuously show in common and express terms the calendar month and year after which the product is not to be sold or used for human consumption. 2. The expiration date, or the date after which the product is not to be sold or used for human consumption, shall be determined by the manufacturer based on empirical data, or other verifiable scientific means.	GA. COMP. R. & REGS. 40-7-1-.26 (2013).
	Sale after date not permitted	(2) Expiration Dates. It shall be unlawful to sell or offer for sale, at retail or wholesale, the following food items past the EXPIRATION DATE stated on the label: (a) Infant Formula.	GA. COMP. R. & REGS. 40-7-1-.26 (2013).
<b>Milk</b>	Date labeling required	(2) All containers of milk and milk products shall be clearly marked with a Sell By Date with the exception of frozen desserts and some shelf stable products where processing codes may be required.	GA. COMP. R. & REGS. 40-2-3-.01 (2013).
	Sale after date not permitted / Definition (expiration date)	(35) "Expiration Date" is synonymous with Pull Date, Best-By Date, Best Before Date, Use-By Date, and Sell-By Date; and means the last date on which the following FOOD products can be sold at retail or wholesale: . . . (e) Milk	GA. COMP. R. & REGS. 40-7-1-.02 (2013).

<b>Shellfish</b>	Date labeling required	(8)(c)(a) Raw and frozen shucked molluscan shellfish shall be obtained in nonreturnable packages legibly bearing . . . the "sell by" date for packages with a capacity of less than 1.87L (one-half gallon) or the date shucked for packages with a capacity of 1.87L (one-half gallon) or more.	GA. COMP. R. & REGS. 40-7-1-.10 (2013).
	Sale after date not permitted / Definition (expiration date)	(35) "Expiration Date" is synonymous with Pull Date, Best-By Date, Best Before Date, Use-By Date, and Sell-By Date; and means the last date on which the following FOOD products can be sold at retail or wholesale: . . . (d) Shucked oysters	GA. COMP. R. & REGS. 40-7-1-.02 (2013).
<b>Prepackaged Sandwiches</b>	Date labeling required	(2) (b) Prepackaged Sandwiches. 1. Type A . . . (ii) Type A Sandwiches which are stored, transported and offered for sale in a non-refrigerated state shall be labeled with an EXPIRATION DATE not later than two (2) days from the date of manufacture. 2. Type B Sandwiches. (i) Type B Sandwiches are those prePACKAGED sandwiches which are handled and sold as refrigerated sandwiches . . . (iii) The EXPIRATION DATE for sandwiches shall state the last day of sale in terms of the month, or its abbreviation, and numerical day of the month (e.g. 6-6). The expiration day shall be preceded by an explanatory term, such as "Expires", "Sell-By", or similar wording. Other PRODUCT CODES or dating methods are prohibited. 3. Type C Sandwiches. (i) Type C Sandwiches are those prePACKAGED sandwiches which are immediately hard frozen after manufacture, [. . .] (iv) The EXPIRATION DATE, as required in Subparagraphs (ii) and (iii) of this section, shall meet the criteria as in 40-7-1-.26(2)(b)2.(iii); and be conspicuously displayed on the front of the wrapper.	GA. COMP. R. & REGS. 40-7-1-.26 (2013).
	Sale after date not permitted	(2) Expiration Dates. It shall be unlawful to sell or offer for sale, at retail or wholesale, the following food items past the EXPIRATION DATE stated on the label: [. . .](b) Prepackaged Sandwiches. For the purpose of this section, prePACKAGED sandwiches shall be classified as Type A, Type B or Type C.	GA. COMP. R. & REGS. 40-7-1-.26 (2013).
HAWAII			
<b>Milk</b>	Date labeling required	Every container of processed milk and milk product held in retail and wholesale stores, restaurants, schools, or similar establishments for sale shall be conspicuously and legibly marked by the milk plant with the designation of the month and day of the month after which the milk shall not be sold for human consumption.	HAW. CODE R. § 11-15-39 (2013).
	Sale after date not restricted	<i>Not restricted for milk in Hawaii.</i>	<i>No relevant state law.</i>
IDAHO			
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Illinois			
<b>Eggs</b>	Date labeling optional	(d) . . . it shall be allowable to include expiration dates in the labeling of consumer-size containers at retail. An expiration date, or other similar language as specified by USDA standards, that is not later than 30 days from the candling date for Grade A eggs and not later than the 15 days from the candling date for Grade AA eggs shall be used.	ILL. ADMIN. CODE tit. 8, § 65.30 (2013).
	Sale after date not permitted	(d) . . . Eggs with an expiration date marked on the container shall not be offered for sale or sold to a consumer after the date marked on the container.	ILL. ADMIN. CODE tit. 8, § 65.30 (2013).

INDIANA			
<b>Eggs</b>	Date labeling required	Sec. 2. All eggs offered for sale in consumer packages (cases, boxes, baskets, or containers): (1) shall be legibly dated (month and day or consecutive day of the year) the day the eggs were packed; (2) shall bear an expiration date of not more than thirty (30) days from date of pack, excluding date of pack; and (3) may contain a "BEST BY", "BEST IF USED BY", or "USE BY" date in addition to the expiration date, which shall not exceed forty-five (45) days from the date of pack, excluding the date of pack. Shell eggs labeled AA shall bear in distinctly legible form an expiration date of no more than ten (10) days from date of pack excluding date of pack. The expiration date shall be stated as the month and day, for example, April 3 or 4-3, preceded by the letters "EXP" or "SELL BY". Quality is best if sold by the expiration date.	370 IND. ADMIN. CODE 1-3-2 (2013).
	Sale after date not restricted	<i>Not restricted for eggs in Indiana.</i>	<i>No relevant state law.</i>
<b>Shellfish</b>	Date labeling required	Sec. 156 (a) Raw shucked shellfish shall be obtained in nonreturnable packages that bear a legible label that identifies the . . . "sell by" date for packages with a capacity of less than one-half ( ½ ) gallon or the date shucked for packages with a capacity of one-half ( ½ ) gallon or more.	410 IND. ADMIN. CODE 7-24-156 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Indiana.</i>	<i>No relevant state law.</i>
IOWA			
<b>Eggs</b>	Date labeling required	(2) Each carton containing eggs for retail sale in Iowa which have been candled and graded shall be marked with: a. The grade and size of the eggs contained; b. The date the eggs were packed; and c. The name and address of the distributor or packer.	IOWA ADMIN. CODE r. 21-36.8 (2013).
	Sale after date not restricted	Not restricted for eggs in Iowa.	No relevant state law.
KANSAS			
<b>Eggs</b>	Date labeling required	(a) Each container of eggs shall be labeled with the following information: . . . (6) the expiration date which shall be preceded by "exp," "sell by," "use by" or similar language.	KAN. STAT. ANN. § 2-2509 (2013).
	Sale after date not restricted	<i>Not restricted for eggs in Kansas.</i>	<i>No relevant state law.</i>
KENTUCKY			
<b>Milk/Milk Products</b>	Definition (Open date)	Section 1. (29) "Open date" means the date which shall be affixed on a consumer package or container of Grade A pasteurized milk or milk products subsequent to the date of manufacturing, processing or packaging and which represents the period of time that the product will remain unspoiled and acceptable for consumption when transported, handled and stored under approved conditions.	902 KY. ADMIN. REGS. 50:010 (2013).
	Date labeling required	Section 1. Open Date Required. No person shall sell or offer for sale any Grade A pasteurized milk or milk product in this state in a consumer package that does not bear the open date as required by this administrative regulation.	902 KY. ADMIN. REGS. 50:080 (2013).
	Sale after date not permitted	Section 4. Enforcement. If a product is not sold within the period specified in the open date, the cabinet shall take action to remedy the condition consistent with this administrative regulation by removing the product from consumer channels and causing the product to be returned to the milk plant of origin for destruction.	902 KY. ADMIN. REGS. 50:080 (2013).
<b>Shellfish</b>	Date labeling required	Section 9. (4) The certified shellfish dealer shall assure that each package containing less than sixty-four (64) fluid ounces of fresh or frozen shellfish shall have: (b) A "sell by date" which provides a reasonable subsequent shelf-life or the words "Best if used by" followed by a date if the product would be expected to reach the end of its shelf-life. The date shall consist of the abbreviation for the month and number of the day of the month. For frozen shellfish, the year shall be added to the date.	902 KY. ADMIN. REGS. 45:020 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Kentucky.</i>	<i>No relevant state law.</i>

LOUISIANA			
<b>Eggs</b>	Date labeling required	B. Each carton or sleeve shall have on each individual container the following: 2. the date when packed;	LA. ADMIN. CODE tit. 7, pt. V § 929 (2013).
	Sale after date not restricted	<i>Not restricted for eggs in Louisiana.</i>	<i>No relevant state law.</i>
MAINE			
<b>Shellfish</b>	Date labeling required	A. Each individual package containing fresh or fresh frozen shucked shellfish meat shall bear a permanent printed label approved by the Department that is legibly and indelibly marked in accordance with applicable federal and state regulations to contain, but not be limited to, the following . . . B. The dealer shall also label each individual package containing less than 64 fluid ounces (1873 ml) of fresh or fresh frozen shellfish with the following: 1. The words "SELL BY DATE" or "BEST IF USED BY" followed by a date when the product would be expected to reach the end of its shelf life. 2. The date shall consist of the abbreviation for the month and number of the day of the month; and 3. For fresh frozen shellfish, the year shall be added to the date.	13-188 ME. CODE R. § 15.21 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Maine.</i>	<i>No relevant state law.</i>
MARYLAND			
<b>Milk (Grade A)</b>	Date labeling required	B. A permittee shall conspicuously and legibly mark the cap or non-glass container of Grade A fluid milk with the words "Sell by", followed by the designation of the month and the day of the month after which the product may not be sold, delivered, or offered for sale.	Md. CODE REGS. 10.15.06.10 (2013).
	Sale after date not permitted (with exemptions)	A. Except as provided in §B of this regulation, a person may not offer Grade A fluid milk for sale beyond the sell-by date. B. The following establishments may use or serve Grade A fluid milk up to 4 days beyond the sell-by date: (1) Food service facilities; (2) Hospitals; (3) Schools; (4) Institutions; and (5) Places where milk is consumed on the premises. C. An establishment listed in §B of this regulation shall ensure that Grade A fluid milk is used by the establishment not later than 4 days beyond the sell-by date.	Md. CODE REGS. 10.15.06.11 (2013).

MASSACHUSETTS

<b>General</b>	Definition (best if used by date)	(C) Definitions . . . Best If Used by Date: A date no later than the expiration of the estimated shelf life of a food product . . .	105 MASS. CODE REGS. 520.119 (2013).
	Definition (sell by date)	(C) Definitions . . . Sell by Date: A recommended last date of retail sale of a food product which provides for a reasonable subsequent period of home shelf life.	105 MASS. CODE REGS. 520.119 (2013).
	Date label required	(G) (1) Placement of the Date. A date shall be displayed with the term “sell by” or “best if used by” in reasonable proximity to the designated date. (2) Such a date shall consist of the common abbreviation for the calendar month and numerals for the day and year, e.g., Feb. 10, 1980; or numerals for the month, day and year, e.g., 2/10/80, except that: (a) Perishable food products need not have the year identification included in the date, and frozen and long shelf life foods need not have the day identification included in the date. (b) Fresh bakery products may be dated with only the day designation, e.g., Monday, or an abbreviation thereof, e.g., Mon. (3) A date shall be accompanied by disclosure of recommended product storage conditions, if such conditions significantly affect the validity of such a date. (4) A date and any recommended storage conditions shall be printed, stamped, embossed, perforated, or otherwise shown on the retail package, a label on such package, or a tag attached to such package in a manner that is easily readable and separate from other information, graphics, or lettering so as to be clearly visible to a prospective purchaser. (5) If a date and recommended storage conditions do not appear on the principal display panel, the information panel, or on another conspicuous portion of the individual retail package, a statement must appear on the principal display or information panel indicating where such information can be found elsewhere on the package. (6) An individual prepackaged food product which is not labeled in accordance with the provisions of 105 CMR 520.119 shall be deemed “mis-branded” pursuant to M.G.L. c. 94, § 187.	105 MASS. CODE REGS. 520.119 (2013).
	Sale after date not permitted	(F) Sale of Past Date Food Products. No person shall offer for sale in the Commonwealth any food product after the expiration of a “sell by date” or a “best if used by date” unless: (1) It is wholesome and its sensory physical qualities have not significantly diminished; and, (2) It is segregated from food products which are not “past date”; and, (3) It is clearly and conspicuously marked either on the package or through the use of shelf markers or placecards, as being offered for sale after the recommended last date of sale or best use.  (K) (1) Exemptions 105 CMR 520.101 through 520.205 do not apply to: (a) Fresh meat, fresh poultry, fresh fish, fresh fruits, and fresh vegetables offered for sale unpackaged or in a container permitting sensory examination. (b) Salt and crystallized refined sugar. (c) Food products shipped in bulk form for use solely in the manufacture of other foods and not for distribution to the consumer in such bulk form or container. (d) Individually packaged food products which are prepackaged as components of a larger food item, if the larger food item is identified with a date no later than the corresponding date for any such components. (e) Food products prepackaged for retail sale with a net weight of less than 1½ ounces. (f) Food products manufactured for sale outside the Commonwealth, processed for sale outside the Commonwealth, or stored for sale outside the Commonwealth.	105 MASS. CODE REGS. 520.119 (2013).

<b>Packaged Perishable or Semi-Perishable Foods</b>	Date labeling required	(D) Open Dating of Perishable and Semi Perishable Food Products No person shall sell, offer for sale, or have in his possession with intent to sell, prepackaged perishable or semi-perishable food products unless they are identified with a "sell-by-date" or a "best if used by date" determined by the manufacturer, processor, packer, repacker, retailer, or other person who had packaged such food products and displayed in the form specified in 105 CMR 520.119	105 MASS. CODE REGS. 520.119 (2013).
	Sale after date not permitted	(F) Sale of Past Date Food Products. No person shall offer for sale in the Commonwealth any food product after the expiration of a "sell by date" or a "best if used by date" unless: (1) It is wholesome and its sensory physical qualities have not significantly diminished; and, (2) It is segregated from food products which are not "past date"; and, (3) It is clearly and conspicuously marked either on the package or through the use of shelf markers or placecards, as being offered for sale after the recommended last date of sale or best use.  (K1) (1) Exemptions 105 CMR 520.101 through 520.205 do not apply to: (a) Fresh meat, fresh poultry, fresh fish, fresh fruits, and fresh vegetables offered for sale unpackaged or in a container permitting sensory examination. (b) Salt and crystallized refined sugar. (c) Food products shipped in bulk form for use solely in the manufacture of other foods and not for distribution to the consumer in such bulk form or container. (d) Individually packaged food products which are prepackaged as components of a larger food item, if the larger food item is identified with a date no later than the corresponding date for any such components. (e) Food products prepackaged for retail sale with a net weight of less than 1½ ounces. (f) Food products manufactured for sale outside the Commonwealth, processed for sale outside the Commonwealth, or stored for sale outside the Commonwealth.	105 MASS. CODE REGS. 520.119 (2013).
MICHIGAN*			
<b>General</b>	Definition (date)	(a) "Date" means 1 of the following: (i) For perishable food, the recommended last day of sale. (ii) For nonperishable food, the recommended last day of sale or consumption, if any.	MICH. COMP. LAWS ANN. § 289.8107 (2013).
<b>Pre-packaged Perishable Foods</b>	Date labeling required	(2) A retail food establishment shall not sell or offer for sale a prepackaged perishable food unless the package bears a label with a date identified by month and day, except that bakery products with a shelf life of 7 days or less may be dated with a day of the week or an abbreviation. A retail food establishment may sell or offer for sale a prepackaged nonperishable food with or without a label that bears a date.	MICH. COMP. LAWS ANN. § 289.8107 (2013).
	Date labeling required	(b)(c)(3) The date for prepackaged perishable food may be displayed with or without explanatory terms. If explanatory terms are used, the terms shall be limited to 1 of the following: "Sell by _____", "Sell before _____", "Last date of sale _____", "Recommended last date of sale _____", or "Recommended sale date _____". Other meaningful terms may be used if specifically approved by the department.	MICH. COMP. LAWS ANN. § 289.8107 (2013).
	Sale after date not permitted	(b)(c)(4) . . . A retail food establishment shall not sell or offer for sale any of the following foods under the following circumstances . . . (b) After the date, nonperishable food or prepackaged perishable food unless the food is wholesome and sound and is clearly identified as having passed the date. (c) Nonperishable food that is no longer wholesome or sound.	MICH. COMP. LAWS ANN. § 289.8107 (2013).
<b>Milk/Dairy</b>	Date labeling required	Sec. 69 (1) Each processor and manufacturer of milk and milk products sold in this state shall place on each container of milk and milk products a recommended last day of sale by month and date. (2) The sell-by date shall be expressed by the first 3 letters of the month followed by the numeral designating the appropriate calendar day or by expressing the calendar month numerically followed by a numeral designating the calendar day. (3) The sell-by date shall appear on that part of the container that is most likely to be displayed, presented, or shown under customary display conditions of sale. However, a cup container may have the sell-by date placed on the bottom.	MICH. COMP. LAWS ANN. § 288.539 (2013).
	Sale after date not permitted (with exemptions)	Sec. 69 (9) Milk and milk products shall not be offered for sale after the sell-by date unless they are advertised to the final consumer in a prominent manner as being beyond the recommended last day of sale.	MICH. COMP. LAWS ANN. § 288.539 (2013).

<b>Meat</b>	Date labeling not required	<i>Not required for meat in Michigan.</i>	<i>No relevant state law.</i>
	Sale after date not permitted (with exemptions)	(4) A retail food establishment shall not sell or offer for sale any of the following foods under the following circumstances: (a) After the date, meat that has been removed from a federally inspected retail package. (9) If the date is the recommended last day of sale, the date shall be calculated to allow a reasonable period for the subsequent consumption of the food, but shall not allow for a period which would result in a health nuisance as described in section 2107.	MICH. COMP. LAWS ANN. § 289.8107 (2013).
MINNESOTA			
<b>General</b>	Definition (open date; quality assurance date)	Subp. 7. Open date. "Open date" means a date consisting of the name or abbreviation or numerical designation for the month, the numerical designation for the day of the month, and the name or abbreviation for the day of the week as provided herein, and if appropriate, the year. An open date may be one of the following: A. Date of manufacture: the date the product was manufactured or processed. This date would be used with a statement such as "Use within 40 days of date shown" or other similar phrasing. B. Date of packaging: the date the product was placed in the retail package in advance of sale. This date would be used with a statement such as "Use within 30 days of date shown" or other similar phrasing. C. Pull date: the recommended last date for retail sale. With this date use a statement such as "Not to be sold after date shown" or "Do not sell after date shown" or "Last day of sale" or some equivalent phrasing. D. Freshness date (quality assurance date): of the last date which the manufacturer or processor estimates the product will retain its original freshness or peak quality. With this date use a statement such as "For maximum freshness use before date shown" or other equivalent phrasing. E. Expiration date: the last date the product can be expected to perform in a manner equal to consumer expectations. With this date use a statement such as "For best results use before the date shown" or other equivalent phrasing. F. Shelf display date: the date used by a retailer to indicate when an item was put on display. The purpose of this date, if used, is to aid in the proper rotation of stock and it would be used by the retailer on those perishable foods which have short shelf life and which are exempt herein from open dating. Subp. 8. Quality assurance date. "Quality assurance date" means any date after which the manufacturer or processor reasonably determines that the product may, by spoilage, wiltage, drying, or any other foreseeable and natural phenomenon, lose its palatability or its desired or nutritive properties. As used in these parts, "quality assurance date" signifies a period of time beginning with the date of manufacture or the date when the food is packed for retail sale and ending with an open date as defined and explained in subpart 7.	MINN. R. 1550.1040 (2013).
	State preemption of local rules	No subordinate unit of government may adopt or enforce any rule or ordinance regarding open dating of perishable foods other than sections 31.781 to 31.789.	MINN. STAT. § 31.786 (2013).
<b>Eggs</b>	Date labeling required	Subpart 1. Pack date. Consumer grades of eggs must be pack dated in type not smaller than one-quarter inch capitals to indicate the date of pack. All cartons and cases must bear a pack date. Retailers who carton eggs delivered in bulk cases must label the cartons with the identical pack date on the bulk case. Subp. 2. Quality assurance date. All consumer grade eggs must carry a "quality assurance date" in addition to the pack date. The pack date must be a Julian date to not confuse it with the quality assurance date. The quality assurance date must be spelled out as the month or number of the month and day, for example, "2-1" or "Feb. 1." The quality assurance date must have an explanatory clause, such as "Sell by" or "Use by," the word "Expires," or the abbreviation "Exp."	MINN. R. 1520.1900 (2013).
	Sale after date not restricted	Nothing contained in sections 31.781 to 31.789 or any rule adopted pursuant hereto shall require the removal from sale of a perishable food product after the expiration of the quality assurance date on the product nor imply that after the expiration of the quality assurance date on the product, the product is not wholesome or safe for human consumption.	MINN. STAT. § 31.784 (2013).

<b>Perishable Foods</b>	Definition (perishable food)	Subd. 3. "Perishable food" means any food intended for human consumption (other than meat and poultry, frozen food, or fresh fruit or vegetables), which has a quality assurance date.	MINN. STAT. § 31.782 (2013).
	Date labeling required	Every manufacturer or processor of perishable food, except meat, poultry, frozen food, and fresh fruits and vegetables, as exempt by Minnesota Statutes, section 31.782, subdivision 3, and except as provided for herein, shall place on the package or label or labeling of such perishable food an open date as described and provided for in parts 1550.1030 to 1550.1250.	MINN. R. 1550.1060 (2013).
	Date labeling required (exemptions)	Perishable foods having quality assurance dates of more than 90 days need not bear open dates.	MINN. R. 1550.1160 (2013).
	Sale after date not restricted	Nothing contained in sections 31.781 to 31.789 or any rule adopted pursuant hereto shall require the removal from sale of a perishable food product after the expiration of the quality assurance date on the product nor imply that after the expiration of the quality assurance date on the product, the product is not wholesome or safe for human consumption.	MINN. STAT. § 31.784 (2013).
<b>Shellfish</b>	Date labeling required	A. Raw shucked shellfish shall be obtained in nonreturnable packages that bear a legible label that identifies: (2) the "sell by" date for packages with a capacity of less than 1.87 liter (one-half gallon) or the date shucked for packages with a capacity of 1.87 liter (one-half gallon) or more.	MINN. R. 4626.0200 (2013).
	Sale after date not restricted	Nothing contained in sections 31.781 to 31.789 or any rule adopted pursuant hereto shall require the removal from sale of a perishable food product after the expiration of the quality assurance date on the product nor imply that after the expiration of the quality assurance date on the product, the product is not wholesome or safe for human consumption.	MINN. STAT. § 31.784 (2013).
MISSISSIPPI			
<b>Shellfish</b>	Date labeling required	100.06 On packages containing sixty-four (64) fluid ounces or more shall have on the lid and sidewall or bottom the "DATE SHUCKED" indicated as the number of the day, month and year or the month, day and year. 100.07 On packages of less than sixty-four (64) fluid ounces of fresh product labeled with the wording "SELL BY" followed by a date expressed as a month, day and year, not to exceed seventeen (17) days from the date shucked.	43-46 MISS. CODE R. § 17 (LexisNexis 2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Mississippi.</i>	<i>No relevant state law.</i>
MISSOURI			
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MONTANA			
<b>Milk (Grade A)</b>	Definition (pasteurized date)	(1)(d) "Pasteurized date" is the same date a unit of milk completes pasteurization.	MONT. ADMIN. R. 32.8.101 (2013).
	Definition ("sell-by" date)	(e) A "sell-by" date is defined as the 12th consecutive day, never to exceed 288 hours, following pasteurization of a unit of milk.	MONT. ADMIN. R. 32.8.101 (2013).
	Date labeling required	(1) Each container into which grade A pasteurized milk is placed for sale for public consumption must be marked with a pasteurized date and a sell-by date. (a) The sell-by and pasteurized date will be displayed in Arabic numerals or standard abbreviations for day and month, which shows the last day the milk may be sold as required by ARM 32.8.202.	MONT. ADMIN. R. 32.8.203 (2013).
	Sale after date not permitted	(1) When 12 days or more have passed following pasteurization of a unit of grade A milk, there will be no quantities of that unit of milk sold or otherwise offered for public consumption. (2) No grade A pasteurized milk may be put in any container marked with a sell-by date which is more than 12 days after pasteurization of the milk for sale in Montana. (3) Unless otherwise agreed upon, the person who offers the milk for sale to the public is responsible for removing the milk at or before the expiration of the 12 days.	Mont. Admin. R. 32.8.202 (2013).
NEBRASKA			
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NEVADA*			
<b>Milk</b>	Date labeling required	1. At the time of sale to the consumer by a retail store of any milk or milk product, there must appear upon the package or container of the product the date established by the processor as the date on which, in order to ensure quality, the product is to be removed from the shelf or similar location or vehicle from which the product is offered for sale to the consumer. This section does not apply to any bulk milk shipments of milk or milk products between distributors.	NEV. ADMIN. CODE § 584.4321 (2012).
	Date labeling required	2. The date respecting assurance of quality must appear at the top of the carton or package and must be indelible and in a contrasting color to the carton or package in the area where the date is affixed. The date respecting assurance of quality must be the first three letters of the month followed by the day of the month. The date must be of a size commensurate with the size of the container and the location on the container, but in no case may the letters be less than three-sixteenths of an inch in height.	NEV. ADMIN. CODE § 584.4321 (2012).
	Sale after date not restricted	<i>Not restricted for milk in Nevada.</i>	<i>No relevant state law.</i>
<b>Potentially Hazardous Foods</b>	Definition (potentially hazardous foods)	1. "Potentially hazardous food" means: (a) Food that consists, in whole or in part, of milk, products made from milk, eggs, meat, poultry, fish, shellfish, edible crustacea or other ingredients in a form capable of supporting the rapid and progressive growth of infectious or toxigenic microorganisms. (b) Cereals, fruits, vegetables and dairy products, such as cooked rice, eggs, other than powdered eggs, baked or boiled potatoes, moist soy protein products, any mixture that includes garlic in oil, melons that have been cut, sliced or otherwise breached, whipped butter, products of margarine that contain butter or raw seed sprouts, that have been declared by the health authority to be potentially hazardous. 2. The term does not include foods which have a pH level of 4.1 or below or a value of water activity of 0.85 or less.	NEV. ADMIN. CODE § 446.025 (2012).
	Date labeling required	4. Potentially hazardous foods which have been prepared by another food establishment or food processing plant to be ready to eat and packaged in a container for refrigeration must be marked by the manufacturer to indicate the date by which the food must be sold, served or frozen	NEV. ADMIN. CODE § 446.145 (2012).
	Sale after date not permitted	4. These foods must be discarded if not sold, served or frozen: (a) Within 10 calendar days after the original container is opened; or (b) On or before the date by which the food must be sold or used, as indicated on the container, whichever occurs first.	NEV. ADMIN. CODE § 446.145 (2012).
NEW HAMPSHIRE			
<b>Cream</b>	Date labeling required	II. All retail containers of cream sold or offered for sale shall be conspicuously marked with the date of the last day on which it may be sold or offered for sale with a reasonable expectation that the cream will not be sour, as determined by the manufacturer.	N.H. REV. STAT ANN. § 184:30-g (2013).
	Sale after date not restricted	<i>Not restricted for cream in New Hampshire.</i>	<i>No relevant state law.</i>
<b>Prewrapped Sandwiches</b>	Definition (expiration date)	(a) "Expiration date" means the last day of sale, printed or stamped on a prewrapped sandwich label, determined in accordance with these rules.	N.H. CODE ADMIN. R. Agr. 1412.03 (2013).
	Date labeling required	(c) The expiration date for a fresh refrigerated prewrapped sandwich shall be clearly and legibly printed or stamped by the vendor on the sandwich wrapper label, at the time it is wrapped, by stating "expiration date" or "sell by" followed by the month and day. (d) The expiration date for a previously frozen prewrapped sandwich shall be clearly and conspicuously printed or stamped on the sandwich wrapper label, at the time it is thawed for retail sale, by stating "expiration date" or "sell by" followed by the month and day. (e) The expiration date for a fresh refrigerated prewrapped sandwich shall be determined by the vendor who makes the prewrapped sandwiches.	N.H. CODE ADMIN. R. Agr. 1412.04 (2013).
	Sale after date not permitted	The purpose of these rules is to protect public health and safety by establishing an expiration date on all sandwiches beyond which each sandwich shall not be sold. These rules implement the procedures of the department of agriculture, markets, and food pursuant to RSA 438:26-b, dating prewrapped sandwiches.	N.H. CODE ADMIN. R. Agr. 1412.01 (2013).

NEW JERSEY			
<b>Milk/Dairy</b>	Date labeling required	Containers of milk, certified milk, Vitamin D milk, homogenized milk, low fat milk, protein fortified low fat milk, skim milk, protein fortified skim milk, nonfat milk, protein fortified nonfat milk, flavored milks and dairy drinks, buttermilk, cultured buttermilk, yogurt, eggnog, creams, half-and-half and all other fluid milk products designated by the department shall be marked with the name and address of the processor or the pasteurizing plant number as assigned by the department or the state of origin and the name and address of the distributor. All containers of fluid milk products, including those mentioned above, intended for sale to consumers, (except for those products which are sterilized and packaged in hermetically sealed containers), shall be marked with a legend "NOT TO BE SOLD AFTER", or "SELL BY", or any other clearly understandable legend approved by the department, followed or accompanied by the first three letters of the month where possible . . . If two letters are used the letters MR shall mean MARCH and MY shall mean MAY; JN shall mean JUNE and JL shall mean JULY.	N.J. STAT. ANN. § 24:10-57.23 (2013).
	Sale after date not permitted	No fluid milk product listed in this section shall be sold or offered for sale after 11:59 p.m. of the date appearing on the containers so marked.	N.J. STAT. ANN. § 24:10-57.23 (2013).
		(d) No milk product referred to in this regulation shall be sold or offered for sale after 11:59 P.M. of the date appearing on the package or container. Products delivered prior to the "shelf-life expiration date" may be consumed on the premises beyond the date appearing thereon.	N.J. ADMIN. CODE § 8:21-10.20 (2013).
<b>Shellfish</b>	Date labeling required	(n)(1) Raw shucked shellfish, packaging and identification requirements include the following: . . . ii. The "sell by" date for packages with a capacity of less than one-half gallon or the date shucked for packages with a capacity of one-half gallon or more.	N.J. ADMIN. CODE § 8:24-3.2 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in New Jersey.</i>	<i>No relevant state law.</i>
NEW MEXICO			
<b>Milk/Dairy</b>	Definition (pull date)	E. "Pull date" means the last day on which a product is to be sold or offered for sale for human consumption.	N.M. CODE R. § 21.34.5.7 (2013).
	Date labeling required	A. In addition to other labeling requirements, except as otherwise exempted in this rule, all processors and producer distributors shall label each container of one-half (1/2) pint or larger of milk, lowfat milk, non-fat milk, flavored milk, skim milk, half and half and creams sold or offered for sale with a legible pull date. B. The length of pull date for pasteurized products shall be determined by the processor. C. The length of pull date for raw products shall not exceed five (5) days including the date of packaging.	N.M. CODE R. § 21.34.5.9 (2013).
	Sale after date not permitted	Dairy products required to be labeled with a pull date and those dairy products labeled with an optional pull date, except frozen, dried, condensed or evaporated products, may not be sold or offered for sale for human consumption by any person after the pull date.	N.M. CODE R. § 21.34.5.16 (2013).
NEW YORK			
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NORTH CAROLINA			
<b>General</b>	Alteration of date labels not permitted	A food shall be deemed to be misbranded: . . . (15) If the labeling provided by the manufacturer, packer, distributor, or retailer on meat, meat products, poultry, or seafood includes a "sell-by" date or other indicator of a last recommended day of sale, and the date has been removed, obscured, or altered by any person other than the customer. This subdivision does not prohibit the removal of a label for the purpose of repackaging and relabeling a food item so long as the new package or new label does not bear a "sell-by" date or other indicator of a last recommended day of sale later than the original package. This subdivision does not prohibit relabeling of meat, meat products, poultry, or seafood that has had its shelf life extended through freezing, cooking, or other additional processing that extends the shelf life of the product.	N.C. GEN. STAT. ANN. § 106-130 (2013).

<b>Shellfish</b>	Definition (sell by date)	(26) "SELL BY date" means a date conspicuously placed on a container or tag by which a consumer is informed of the latest date the product will remain suitable for sale.	15A N.C. ADMIN. CODE 18A.0301 (2013).
	Date labeling required	(c) Any container of shucked shellfish which has a capacity of 64 fluid ounces or more shall be dated as of the date shucked on both the lid and sidewall or bottom. Any container of shucked shellfish which has a capacity of less than 64 fluid ounces shall indicate a SELL BY date.	15A N.C. ADMIN. CODE 18A.0614 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in North Carolina.</i>	<i>No relevant state law.</i>
NORTH DAKOTA			
<b>Shellfish</b>	Date labeling required	1. Raw shucked shellfish shall be obtained in nonreturnable packages which bear a legible label that identifies . . . (b) The sell by date for packages with a capacity of less than 1.87 L (one-half gallon) or the date shucked for packages with a capacity of 1.87 L (one-half gallon) or more.	N.D. ADMIN. CODE 33-33-04-03.1 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in North Dakota.</i>	<i>No relevant state law.</i>
OHIO			
<b>General</b>	State preemption of local rules	(C) To ensure that a uniform system of determining the useful product life of perishable food products for sale within the state is established, persons complying with this section and the rules established pursuant thereto are exempt from any local ordinances or rules pertaining to the quality assurance period of food products or the manner in which the quality assurance period and perishability of food products are to be disclosed.	OHIO REV. CODE ANN. § 3715.171 (2013).
	Definition (quality assurance period)	"Quality assurance period" means the period of time following the completion of normal manufacturing, processing, and packaging procedures during which a food product subjected to normal conditions of exposure will maintain conformity with all of the characteristics normally associated with the food product and will provide the benefits for which the food product is normally purchased. Food product characteristics include, but are not limited to, taste, texture, smell, nutritional value, and reaction value with other food products if used as an ingredient with other food products.	OHIO REV. CODE ANN. § 3715.171 (2013).
	Definition (sale date)	"Sale date" means the date by which the manufacturer, processor, or packager of a packaged food product recommends that the food product be sold for consumption based on the food product's quality assurance period.	OHIO REV. CODE ANN. § 3715.171 (2013).
<b>Packaged Perishable Foods</b>	Date labeling required	(A) Except as provided in division (B) of this section, no person shall knowingly sell or offer to sell in this state any packaged perishable food product that has a quality assurance period of thirty days or less, unless the package is clearly marked by the packager with its sale date. The sale date shall be legible and understandable to the consumer. The director of agriculture shall make rules in accordance with Chapter 119. of the Revised Code establishing the manner in which the sale date shall be affixed to food products. (B) The provisions of this section do not apply to fresh fruits and vegetables or to meat, including poultry, whether packaged or unpackaged, nor do they apply to packaged perishable food products when sold or offered for sale at any place of business where less than one hundred thousand dollars of all products were sold during the preceding year.	OHIO REV. CODE ANN. § 3715.171 (2013).
	Sale after date not restricted	<i>Not restricted for packaged perishable foods in Ohio.</i>	<i>No relevant state law.</i>
<b>Shellfish</b>	Date labeling required	(F)(iii)(d) The dealer shall assure that each package containing less than sixty-four fluid ounces of fresh or frozen shellfish shall have: . . . (ii) A "Sell by date" which provides a reasonable subsequent shelf-life or the words "Best if used by" followed by a date when the product would be expected to reach the end of its shelf-life. The date shall consist of the abbreviation for the month and number of the day of the month. For frozen shellfish, the year will be added to the date.	OHIO ADMIN. CODE 901:3-8-03 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Ohio.</i>	<i>No relevant state law.</i>
OKLAHOMA*			
<b>Eggs</b>	Date labeling required	B. An expiration date shall be used on the container, the date shall be preceded by "EXP", "sell by", or "use through".	OKLA. STAT. tit. 2, § 10-72 (2013).
	Sale after date not restricted	<i>Not restricted for eggs in Oklahoma.</i>	<i>No relevant state law.</i>

<b>Shellfish</b>	Date labeling required	(a) Raw shucked shellfish shall be obtained in nonreturnable packages which bear a legible label that identifies the . . . (2) The “sell by” or “best if used by” date for packages with a capacity of less than 1.89 L (one-half gallon) or the date shucked for packages with a capacity of 1.89 L (one-half gallon) or more.	OKLA. ADMIN. CODE § 310:257-5-15 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Oklahoma.</i>	<i>No relevant state law.</i>
OREGON			
<b>Packaged Perishable Foods</b>	Definition (open date)	(2) “Open date” means a date clearly visible to retail consumers showing the pull date, packing date or other date described in ORS 616.835 (2).	OR. REV. STAT. § 616.805 (2013).
	Date labeling required	No person shall sell or offer for sale at retail any packaged perishable food unless the package bears a clearly marked, printed or stamped label showing the open date for the perishable food in the package. Such label shall be so designed and placed as to be clearly visible to the consumer.	OR. REV. STAT. § 616.815 (2013).
		Unless otherwise provided, the following perishable foods shall be open date labeled with the pull date: (1) Processed or cured meat and meat products including wieners, bologna, luncheon meat, liver sausage, salami, braunschweiger, hams and ham products, and bacon (tuck or vacuum packed). (2) Fluid milk and cream products for which a standard of identity has been established under ORS Chapter 621, cottage cheeses, yogurts, cheeses with a moisture content of more than 50 percent, sour creams, and party dips. (3) Bakery products as defined in subsection (2) of <u>ORS 625.010</u> , pastries, cookies, or crackers having a moisture content of 16 percent or more. (4) Eggs in shell. (5) Vegetable, macaroni, or potato salads that use mayonnaise or other acidic dressing as an ingredient or dressing, puddings, sandwiches, and other ready-to-eat products. (6) Fowl, including chickens, fryers, turkeys, ducks, geese, and other domesticated birds. (7) Fresh or raw packaged meat products, whether whole, ground, chopped or fabricated. (8) Fresh sausage products. (9) Fresh seafood products. (10) Fresh fish products (not breaded or precooked).	OR. ADMIN. R. 603-025-0080 (2013).
	Sale after date not permitted (with exemptions)	(1) No person shall sell or offer for sale at retail any packaged perishable food after the expiration of the open pull date appearing on the label of the package or container unless: (a) The package has been separated from packages of perishable food with open pull dates that have not expired; (b) Each such package or group of packages is clearly identified in retail display as having an expired open pull date; and (c) The food is fit for human consumption according to applicable state and federal law. (2) Notwithstanding the provisions of this section, a vendor shall be allowed the first eight business hours after the expiration of the open pull date within which to remove all packages with an expired pull date.	OR. REV. STAT. § 616.825 (2013).
Alteration of date labels not permitted	No person shall: (1) Alter, deface or remove the open date from any perishable food retail or shipping package carton, container or wrapper. (2) Label any perishable food retail or shipping package carton, container or wrapper in a manner that does not conform to the rules promulgated pursuant to ORS 616.835.	OR. REV. STAT. § 616.830 (2013).	

PENNSYLVANIA			
<b>Milk</b>	Date labeling required	(a) Label requirement. The cap or nonglass container of pasteurized milk held in retail food stores, restaurants, schools or similar food facilities for resale shall be conspicuously and legibly marked in a contrasting color with the designation of the "sell-by" date--the month and day of the month after which the product may not be sold or offered for sale. The designation may be numerical--such as "8-15"--or with the use of an abbreviation for the month, such as "AUG 15 or AU 15." The words "Sell by" or "Not to be sold after" must precede the designation of the date, or the statement "Not to be sold after the date stamped above" must appear legibly on the container. This designation of the date may not exceed 17 days beginning after midnight on the day on which the milk was pasteurized.	7 PA. CODE § 59A.15 (2013).
	Sale after date not permitted	(c) Prohibition. Pasteurized milk may not be sold or offered for sale if the milk is sold or offered for sale after the sell-by date designated on the container.	7 PA. CODE § 59A.15 (2013).
<b>Shellfish</b>	Date labeling required	(a) Label requirement. Raw shucked shellfish shall be obtained in nonreturnable packages which bear a legible label that identifies the following:[...] (2) For packages with a capacity of less than 1.87 L (1/2 gallon): the "sell by" or "best if used by" date.	7 PA. CODE § 46.246 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Pennsylvania.</i>	<i>No relevant state law.</i>
RHODE ISLAND			
<b>Packaged Bakery Products</b>	Definition (pull date)	C) 'Pull Date' is the final date or day as established by the packer or manufacturer upon which a packaged bakery product may be sold, except as provided under Chapter 21-33, Section 3 and Section R21-33-PBP 6.00 of these rules and regulations.	31-3-5 R.I. Code R. § 21-33-PBP 1.00 (2013).
	Definition (packaged bakery product)	A) A 'Packaged Bakery Product' is a packaged bakery or bakery-type product consisting of flour and other ingredients having a normal shelf life as established by the manufacturer or distributor of sixty (60) days or less. The term shall not include frozen or canned products or foods which are or may be baked as part of a cooking or preparation procedure.	31-3-5 R.I. Code R. § 21-33-PBP 1.00 (2013).
	Date labeling required	All packaged bakery product sold in this state shall have a pull date in a conspicuous place upon each package in which they are sold in accordance with these regulations and Chapter 21-33 of Rhode Island General Laws of 1956, as amended.	31-3-5 R.I. Code R. § 21-33-PBP 2.00 (2013).
	Sale after date not permitted (with exemptions)	Packaged bakery products may be sold after their 'Pull Date', provided however, that: (1) Such products are segregated from such products which have not passed their 'Pull Date', and (2) Shelf markers or placards, or markings on the individual packages clearly identify such products as being offered for sale 'Past Date'. The requirements of this section do not apply to any business whose exclusive purpose is the sale of past-date bakery products.	31-3-5 R.I. Code R. § 21-33-PBP 6.00 (2013).
<b>Shellfish</b>	Date labeling required	6.6 (d) The dealer shall assure that each package containing less than 64 fluid ounces of fresh or frozen shellfish shall have: (i) The shucker-packer's or repacker's license number on the label; and (ii) A "SELL BY DATE" which provides a reasonable subsequent shelf-life or the words "BEST IF USED BY" followed by a date when the product would be expected to reach the end of its shelf-life. The date shall consist of the abbreviation for the month and number of the day of the month. For frozen shellfish, the year will be added to the date.	31-3-9 R.I. CODE R. § 6.0 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Rhode Island.</i>	<i>No relevant state law.</i>
SOUTH CAROLINA			
<b>Eggs</b>	Date labeling required	(E) . . . On this label must be printed or stamped, legibly in letters not less than one-fourth of an inch in size, the date when the eggs were packed and candled or the expiration date, which may not exceed forty-five days from the date packed	S.C. CODE ANN. § 39-39-140 (2013).
	Sale after date not restricted	<i>Not restricted for eggs in South Carolina.</i>	<i>No relevant state law.</i>

<b>Shellfish</b>	Date labeling required	(2) Packages containing less than sixty-four (64) fluid ounces shall include: (a) The words "SELL BY" or "BEST IF USED BY" followed by a reasonable date when the product would be expected to reach the end of its shelf life; (b) The date as a month and day of the month; and (c) For fresh frozen shellfish, the year shall be added to the date.	S.C. CODE ANN. REGS. 61-47 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in South Carolina.</i>	<i>No relevant state law.</i>
SOUTH DAKOTA*			
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TENNESSEE			
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TEXAS			
<b>Shellfish</b>	Date labeling required	(d) The dealer shall assure that each package containing less than 64 fluid ounces of fresh or frozen molluscan shellfish shall have [...] (2) a "SELL BY DATE" which provides a reasonable subsequent shelf life or the words "BEST IF USED BY" followed by a date when the product would be expected to reach the end of its shelf life.	25 TEX. ADMIN. CODE § 241.66 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Texas.</i>	<i>No relevant state law.</i>
UTAH			
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VERMONT			
<b>Shellfish</b>	Date labeling required	R. 1. Raw shucked shellfish shall be obtained in nonreturnable packages which bear a legible label that identifies the: . . . b. The "sell by" date for packages with a capacity of less than 1.87 L (one-half gallon) or the date shucked for packages with a capacity of 1.87 L (one-half gallon) or more.	12-5 VT. CODE R. § 30:5-204 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Vermont.</i>	<i>No relevant state law.</i>
VIRGINIA			
<b>Dairy</b>	Definition (dairy products)	"Dairy product" means butter, natural or processed cheese, dry whole milk, nonfat dry milk, dry buttermilk, dry whey, evaporated whole or skim milk, condensed whole milk and condensed plain or sweetened skim milk.	2 VA. ADMIN. CODE § 5-531-10 (2013).
	Date labeling required	4. No person may sell or offer for sale to the final consumer any dairy product in container or package form that does not bear a "sell by date."	2 VA. ADMIN. CODE § 5-531-60 (2013).
	Sale after date not permitted	5. No person may sell or offer for sale to the final consumer any dairy product in container or package form after the "sell by date" shown on the package.	2 VA. ADMIN. CODE § 5-531-60 (2013).
	Alteration of date labels not permitted	6. No person may change, remove, or replace the "sell by date" on any dairy product in container or package form after the "sell by date" is initially affixed to the package.	2 VA. ADMIN. CODE § 5-531-60 (2013).
<b>Shellfish</b>	Date labeling required	A. Raw shucked shellfish shall be obtained in nonreturnable packages that bear a legible label that identifies the: . . . "sell by" or "best if used by" date for packages with a capacity of less than one-half gallon (1.87 L) or the date shucked for packages with a capacity of one-half gallon (1.87 L) or more.	2 VA. ADMIN. CODE § 5-585-400 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Virginia.</i>	<i>No relevant state law.</i>

WASHINGTON*			
<b>Perishable Packaged Food Goods</b>	Definition (pull date)	(2) "Pull date" means the latest date a packaged food product shall be offered for sale to the public.	WASH. REV. CODE ANN. § 69.04.900 (2013).
	Definition (shelf life)	(3) "Shelf life" means the length of time during which a packaged food product will retain its safe consumption quality if stored under proper temperature conditions.	WASH. REV. CODE ANN. § 69.04.900 (2013).
	Definition (perishable packaged food goods)	(1) "Perishable packaged food goods" means and includes all foods and beverages, except alcoholic beverages, frozen foods, fresh meat, poultry and fish and a raw agricultural commodity as defined in this chapter, intended for human consumption which are canned, bottled, or packaged other than at the time and point of retail sale, which have a high risk of spoilage within a period of thirty days, and as determined by the director of the department of agriculture by rule and regulation to be perishable.	WASH. REV. CODE ANN. § 69.04.900 (2013).
	Date labeling required	All perishable packaged food goods with a projected shelf life of thirty days or less, which are offered for sale to the public after January 1, 1974 shall state on the package the pull date.	WASH. REV. CODE ANN. § 69.04.905 (2013).
	Sale after date not permitted (with exemptions)	Can products be sold after the pull date? Yes, products can be sold after the pull date has expired if they are still wholesome, not a danger to health and clearly labeled indicating that the pull date has expired. They must be separated from products that are still within pull date.	WASH. ADMIN. CODE § 16-142-130 (2013).
	Alteration of date labels not permitted	Can pull dates be changed? No, pull dates on perishable packaged foods subject to pull dating may not be changed, crossed-out or concealed.	WASH. ADMIN. CODE § 16-142-150 (2013).
WASHINGTON, D.C.			
<b>General</b>	Definition (pull date)	Pull date -- the date after which the food may not be sold, unless isolated and prominently labeled as being beyond the last date on which the food should be sold without a significant risk of spoilage, loss of palatability if stored by the consumer after that date and in the manner which the food can reasonably be expected to be stored.	D.C. MUN. REGS. tit. 25-A, § 9901 (2013).
<b>Potentially Hazardous Foods, Dairy, Meat/Poultry, Eggs</b>	Date labeling required	718.1 All pasteurized fluid milk, fresh meat, poultry, fish, bread products, eggs, butter, cheese, cold meat cuts, mildly processed pasteurized products, and potentially hazardous foods sold in food-retail establishments which are pre-wrapped and not intended to be eaten on the premises of the food establishment shall have easily understood pull dates prominently displayed on their containers.	D.C. MUN. REGS. tit. 25-A, § 718 (2013).
	Sale after date not permitted	Pull date -- the date after which the food may not be sold, unless isolated and prominently labeled as being beyond the last date on which the food should be sold without a significant risk of spoilage, loss of palatability if stored by the consumer after that date and in the manner which the food can reasonably be expected to be stored.	D.C. MUN. REGS. tit. 25-A, § 9901 (2013).
	Alteration of date labels not permitted	718.2 If any food that has a pull date is rewrapped, the new package shall retain the original pull date and the word "REWRAPPED" shall be prominent displayed on the package.	D.C. MUN. REGS. tit. 25-A, § 718 (2013).
<b>Packaged Perishable Food</b>	Date labeling not required	<i>Date labeling not required for packaged perishable food in Washington, D.C.</i>	<i>No relevant state law.</i>
	Sale after date not permitted	No person shall sell, trade, or barter any perishable packaged food beyond the pull date appearing thereon.	D.C. MUN. REGS. tit. 25-B, § 3606 (2013).
	Alteration of date labels not permitted	3606.2 No person shall rewrap or repackage any packaged perishable food with the intention of placing a pull date on the food that is different from the original pull date.	D.C. MUN. REGS. tit. 25-B, § 3606 (2013).
<b>Shellfish</b>	Date labeling required	2403.5 Each individual package containing less than sixty-four fluid ounces (64 fl. oz.) of fresh or frozen shellfish shall be labeled with the following information: . . . (b) A "Sell by" date which provides a reasonable subsequent shelf-life or the words "Best if used by" followed by a date when the product would be expected to reach the end of its shelf-life.	D.C. MUN. REGS. tit. 25-B, § 2403 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Washington, D.C.</i>	<i>No relevant state law.</i>

WEST VIRGINIA*			
<b>Eggs</b>	Date labeling required	6.5 Egg producers who own three thousand birds or less shall denote the expiration date of the eggs on the outside container in which the egg cards are transported or on an invoice provided to the retailer.	W. VA. CODE R. § 61-7A-6 (2013).
	Sale after date not restricted	<i>Not restricted for eggs in West Virginia.</i>	<i>No relevant state law.</i>
WISCONSIN			
<b>Eggs</b>	Date labeling required	(1) (e) One of the following dates, in addition to the packing date under par. (d): 1. An expiration date or "sell by" date after which the eggs may not be offered for sale or sold at retail. The expiration date may not be more than 30 days from the packing date, including the day on which the eggs were packed. The expiration date or "sell by" date shall be designated by at least the first three letters of the month and the date within that month. The date shall be accompanied by a phrase or abbreviation such as "sell by" or "EXP" which clearly identifies it as an expiration date or "sell by" date. 2. A "use by" date consisting of at least the first 3 letters of the month, and the date within that month. The date shall be accompanied by a phrase such as "use by," "best if used by" or "use before," which indicates that the consumer should use the eggs before that date.	Wis. ADMIN. CODE Agric. Trade & Consumer Prot. § 88-08 (2013).
	Sale after date not permitted	(4) (a) No eggs may be sold as whole eggs at retail after the expiration or "sell by" date specified for those eggs under subs. (1) (e) 1. or (2) (g) 1. If otherwise used as human food, the eggs shall meet at least grade B egg standards.	Wis. ADMIN. CODE Agric. Trade & Consumer Prot. § 88-08 (2013).
	Alteration of date labels not permitted	(4) (b) Eggs labeled with dates under subs. (1) (e) or (2) (g) shall retain those dates and may not be repackaged or relabeled with any other dates.	Wis. ADMIN. CODE Agric. Trade & Consumer Prot. § 88-08 (2013).
<b>Shellfish</b>	Date labeling required	3-202.17 (A) Raw shucked shellfish shall be obtained in nonreturnable packages which bear a legible label that identifies the: . . . (2) The "sell by" date for packages with a capacity of less than 1.87 L (one-half gallon) or the date shucked for packages with a capacity of 1.87 L (one-half gallon) or more.	Wis. ADMIN. CODE Agric. Trade & Consumer Prot. §75, App. (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Wisconsin.</i>	<i>No relevant state law.</i>
WYOMING			
<b>Shellfish</b>	Date labeling required	(a) Raw shucked shellfish shall be obtained in nonreturnable packages which bear a legible label that identifies the: . . . (ii) The "sell by" date for packages with a capacity of less than one-half (2) gallon (1.871) or the date shucked for packages with a capacity of one-half (2) gallon (1.87 1) or more.	AGR FSF 3 WYO. CODE R. § 11 (2013).
	Sale after date not restricted	<i>Not restricted for shellfish in Wyoming.</i>	<i>No relevant state law.</i>



## Endnotes

- 1 Dana Gunders, Natural Resources Def. Council, *Wasted: How America Is Losing Up to 40% of Its Food from Farm to Fork to Landfill* 12 (2012).
- 2 Jonathan Bloom, *American Wasteland* xii (Da Capo Lifelong Books, 2011).
- 3 Gunders, *supra* note 1, at 13.
- 4 *Food Security in the U.S.*, U.S. Dep't of Agric. Econ. Research Serv. (last updated Sept. 4, 2012), <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx> (last visited Apr. 4, 2013).
- 5 Gunders, *supra* note 1, at 4. According to another statistic, redistributing only 2 percent of food waste could provide the needed calories/day/person to lift all food insecure Americans above the hunger line. Marlene White, *American Wasteland: Jonathan Bloom on Why Food Waste Deserves Our Attention*, [worldwatch.org](http://blogs.worldwatch.org/nourishingtheplanet/american-wasteland-jonathan-bloom-on-why-food-waste-deserves-our-attention) (Mar. 14, 2012), <http://blogs.worldwatch.org/nourishingtheplanet/american-wasteland-jonathan-bloom-on-why-food-waste-deserves-our-attention> (last visited July 3, 2013).
- 6 McKinsey Global Inst., *Resource Revolution: Meeting The World's Energy, Materials, Food, And Water Needs* 72 (2011).
- 7 Jean C. Buzby & Jeffrey Hyman, *Total and Per Capita Value of Food Loss in the United States*, 37 *Food Pol'y* 561, 562 (2012).
- 8 McKinsey Global Inst., *supra* note 6, at 72.
- 9 Kevin D. Hall et al., *The Progressive Increase of Food Waste in America and Its Environmental Impact*, 4 *PLoS ONE* 1, 2(2009), [available at http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0007940](http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0007940).
- 10 Bloom, *supra* note 2, at xi.
- 11 Bloom, *supra* note 2, at 187.
- 12 *See, e.g.*, WRAP, *Consumer Insight: Date Labels and Storage Guidance* (2011), [available at http://www.wrap.org.uk/sites/files/wrap/Technical\\_report\\_dates.pdf](http://www.wrap.org.uk/sites/files/wrap/Technical_report_dates.pdf); Gunders, *supra* note 1, at 12-13; Bloom, *supra* note 2, at 164-67.
- 13 Bloom, *supra* note Error! Bookmark not defined., at 166.
- 14 Bio Intelligence Serv., *Preparatory Study on Food Waste Across EU* 27, at 124-27 (2010).
- 15 Office of Tech. Assessment, *Open Shelf-Life Dating of Food 1* (1979), [available at www.princeton.edu/~ota/disk3/1979/7911/7911.PDF](http://www.princeton.edu/~ota/disk3/1979/7911/7911.PDF) (last visited Dec. 21, 2012). The Office of Technology Assessment was an office of the United States Congress from 1972 to 1995. Its reports on technological and scientific issues were widely praised for their objectivity and authoritative analysis. *See* Technology Assessment and Congress, Federation of American Scientists' Office of Technology Assessment Archive, [http://www.fas.org/ota/technology\\_assessment\\_and\\_congress/](http://www.fas.org/ota/technology_assessment_and_congress/) (last visited July 3, 2013).
- 16 Office of Tech. Assessment, *supra* note 1, at 1.
- 17 *Id.*; *see also* Inst. of Food Technologists, *Open Shelf-life Dating of Food*, 35 *Food Tech.* 89, 89 (1981).
- 18 Gerri Ransom, National Advisory Committee on Microbiological Criteria for Foods, *Consideration for Establishing Safety-Based Consume-By Date Labels for Refrigerated Ready-to-Eat Foods*, 68 *J. of Food Protection* 1761, 1763 (2005).
- 19 U.S. Gov't Accountability Office, MWD-75-19, *Food Labeling: Goals, Shortcomings, and Proposed Changes* 44 (1975), [available at http://www.gao.gov/assets/120/115505.pdf](http://www.gao.gov/assets/120/115505.pdf).
- 20 *Id.*
- 21 Ransom, *supra* note 18, at 1763.
- 22 *See* Gov't Accountability Office, *supra* note 19, at 43. When the New York State Consumer Protection Board released a book that allowed consumers to decipher closed dates in the early 1980s, the agency was inundated with more than 100,000 requests for the publication in the first year. *See* Inst. of Food Technologists, *supra* note 89, at 89.
- 23 A USDA study from 1973 found that more than 60 retail chains, comprising about 15,000 food stores nationwide, had implemented open dating systems. *See* Gov't Accountability Office, *supra* note Error! Bookmark not defined., at 45. While open code dating became more prevalent in the 1970s, the practice itself can be traced back further. There is evidence of open dates being used as early as 1917, and in the 1930s *Consumer Reports* found that consumers had a desire for a more shopper-friendly date label system. *See* Theodore P. Labuza & Lynn M. Szybist, *Open Dating of Foods* 7 (2001).
- 24 *Id.* at 45.
- 25 *Id.* at 43.
- 26 Office of Tech. Assessment, *supra* note 15, at 1
- 27 *Id.* at 5.
- 28 *Id.* at 5.
- 29 Carol Haddix, *Congress Made Food Label a Big Deal*, *Chicago Tribune*, Jan 12, 1978, at F19, [available at ProQuest Historical Newspapers](http://www.proquest.com/newspapers/doc/169689062), Doc. No. 169689062.
- 30 Gov't Accountability Office, *supra* note 19, at 48.
- 31 *Id.*
- 32 *Id.*
- 33 *Id.* at 49.
- 34 *See* S. 2373, 93d Cong., 1st Sess. (1973) (the one bill that did eventually pass the Senate). *See also* Office of Tech. Assessment, *supra* note 15, at 3.
- 35 Select Comm. On Nutrition & Human Needs, 93d Cong., *National Nutrition Policy: Nutrition and the Consumer*, Working Paper 11 (Comm. Print 1974) (prepared by Freeman H. Quimby & Cynthia B. Chapman).
- 36 *See Id.*
- 37 92 Cong. Rec. S201101-11 (June 16, 1971) (statement of Sen. Hartke).
- 38 *Food Amendments of 1974: Hearing on S. 2373 and Amendments 962 and 1053, and S. 3012 Before the S. Comm. on Commerce*, 93rd Cong. 219 (1974) (statement of Thomas K. Zaucha of the National Association of Food Chains.)
- 39 Harvey L. Hensel, *Look What Consumerism Has Done Now*, 29 *Food Drug Cosm. L.J.* 220, 226 (1974).
- 40 *Id.* at 227-28 (1974).
- 41 Gov't Accountability Office, *supra* note 19, at 44, 47; Inst. of Food Technologists, *supra* note 17, at 94-96.
- 42 *Id.* at 46-47.
- 43 *Id.* at 48.
- 44 *See, e.g.*, Hensel, *supra* note 39, at 227 Select Comm. On

- Nutrition and Human Needs, *supra* note 37, at 11.
- 45 Hensel, *supra* note 39, at 227 (noting that in 1974 sixteen open code dating state laws already existed, and also that twenty-three states were in the process of introducing eighty-four open code dating bills in the legislative session).
- 46 *Id.* at 227-28.
- 47 Gov't Accountability Office, *supra* note 19, at 49.
- 48 H.R. 2897, 106th Cong. (1999).
- 49 See H.R. 2897, 106th Cong. (1999); H.R. 2611, 107th Cong. (2001); H.R. 468, 108th Cong. (2003); H.R. 3570, 109th Cong. (2005); H.R. 4233, 110th Cong. (2005); HR 2087, 111th Cong. (2009).
- 50 H.R. 2087, 111th Cong. (2009).
- 51 H.R. 2087, 111th Cong., ¶ 6 (2009).
- 52 H.R. 2087, 111th Cong., ¶ 2 (2009); 21 C.F.R. § 101.9(j) (2013).
- 53 H.R. 2087, 111th Cong., ¶ 1 (2009).
- 54 *Fact Sheets: Food Product Dating*, U.S. Dep't of Agric. Food Safety & Inspection Serv., <http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/food-labeling/food-product-dating/food-product-dating> (last visited July 3, 2013). The exception to this rule is infant formula, for which the federal government requires a "use by" date. See 21 C.F.R. § 107.20 (2013).
- 55 Eastern Research Grp., Inc., *Current State of Food Product Open Dates In The U.S.* 1-13 (2003).
- 56 U.S. Const. art I, § 8, cl. 3. Congress shall have the power "to regulate commerce with foreign Nations, among the several States, and with the Indian Tribes."
- 57 See *supra* notes 26-30 and accompanying text.
- 58 Food & Drug Admin., *About FDA*, <http://www.fda.gov/AboutFDA/Transparency/Basics/ucm242648.htm> (last visited July 31, 2013). U.S. Dep't of Agric. Food Safety & Inspection Serv., *Food Product Dating*, *supra* note 54.
- 59 21 U.S.C. §§ 301-392 (2012); 21 C.F.R. § 1.4 (2012); 21 U.S.C. § 343-1 (2012); 15 U.S.C. §§ 1451-1461 (2012); 21 C.F.R. § 10.40 (2013); 7 U.S.C. 499 (2012); 21 U.S.C. § 2201-52 (2012). See also, U.S. Dep't of Agric., Food Safety & Inspection Serv., *A Guide to Federal Food Labeling Requirements for Meat and Poultry Products* 6 (2007).
- 60 21 U.S.C. §§ 451-472 (2012); 21 U.S.C. §§ 601-695 (2012); 21 U.S.C. §§ 1031-1056 (2012); 12 U.S.C. § 1141 (2012); 7 C.F.R. § 2.79 (a)(1) (2013); 7 C.F.R. § 2.53 (2013); 9 C.F.R. § 300.2 (2013). See *Regulations & Policies: Regulations for Package Dating*, U.S. Dep't of Agric. Food Safety & Inspection Serv., [http://www.fsis.usda.gov/regulations/Regs\\_for\\_Package\\_Dating/index.asp](http://www.fsis.usda.gov/regulations/Regs_for_Package_Dating/index.asp) (last visited Apr. 18, 2013).
- 61 FDA regulates shell eggs and USDA regulates processed egg products as well as certified shell eggs under a voluntary grading program. 21 U.S.C. §§ 1031-1056 (2012); 21 U.S.C. §§ 301-392 (2012). Under the Egg Products Inspection Act, FDA and USDA share responsibility over egg products; USDA has a primary role. 63 Fed. Reg. 27502, 27508 (May 19, 1998).
- 62 FDA regulates food safety practices in the production and harvesting of raw fruits and vegetables under FSMA. 21 U.S.C. § 2201-52 (2011). USDA regulates the marketing, inspection, and certification of fresh fruits and vegetables under the Perishable Agricultural Commodities Act of 1930 and other legislation. 7 U.S.C. 499 (2012); 7 C.F.R. § 51 (2013). See also 7 U.S.C. § 1621 (2012).
- 63 21 U.S.C. § 331(b) (2012). See also 21 U.S.C. § 343 (2012).
- 64 21 U.S.C. § 331(b) (2012).
- 65 21 U.S.C. § 331(b) (2012). A label may be deemed misleading under the FD&CA not only if its language makes misleading representations, but also if the label fails to reveal important information to the consumer. 21 U.S.C. § 321(n) (2012). See also 21 U.S.C. § 341 (2012).
- 66 21 U.S.C. § 607(e) (2012); 9 C.F.R. § 317.8 (2013); 21 U.S.C. § 453 (h) (2012); 9 C.F.R. § 381.126(a) (2013); 7 U.S.C. § 499b(4) (2012). The Agricultural Marketing Act of 1946 gives authority to the Agricultural Marketing Service, another agency within USDA, to regulate labeling for eggs under the voluntary grading program for eggs. 21 U.S.C. § 1036(b) (2012); 7 C.F.R. § 56.36 (2013).
- 67 21 U.S.C. § 463(a) (2012); 21 U.S.C. § 607(c) (2012); 21 U.S.C. § 1043 (2012). Under the Perishable Agricultural Commodities Act of 1930, USDA may also promulgate regulations. 7 U.S.C. § 499(o) (2012).
- 68 21 U.S.C. § 453(h) (2012); 21 U.S.C. § 607(e) (2012); 21 U.S.C. § 1036(b) (2012).
- 69 21 U.S.C. § 457(b) (2012); 21 U.S.C. 607(c) (2012).
- 70 21 U.S.C. § 1031 (2012).
- 71 63 Fed. Reg. 27502, 27507 (May 19, 1998).
- 72 15 U.S.C. § 45(1) (2012); Fed. Trade Comm'n, *About the Federal Trade Commission*, <http://www.ftc.gov/ftc/about.shtm> (last visited August 4, 2013).
- 73 15 U.S.C. § 1454(c) (2012).
- 74 15 U.S.C. § 1454(c) (2012); Memorandum of Understanding Between The Federal Trade Commission and The Food and Drug Administration, MOU 225-71-8003 (1971), available at <http://www.fda.gov/AboutFDA/PartnershipsCollaborations/MemorandaofUnderstandingMOUs/DomesticMOUs/ucm115791.htm>.
- 75 21 U.S.C. § 331(b) (2012). See also 21 U.S.C. § 343 (2012). See also Government Accountability Office, *supra* note 19, at 49.
- 76 *FDA Basics*, Food and Drug Administration, <http://www.fda.gov/AboutFDA/Transparency/Basics/ucm210073.htm> (last updated Apr. 13, 2012). See appendix for full law.
- 77 FDA's infant formula regulation requires that manufacturers set a "use by" date "on the basis of tests or other information" showing that the formula will remain of sufficiently high quality "under the conditions of handling, storage, preparation, and use prescribed by label directions." 21 C.F.R. § 107.20 (2012).
- 78 Toby Milgrom Lebin, *The Infant Formula Act of 1980: A Case Study of Congressional Delegation to the Food and Drug Administration*, 42 Food Drug Cosm. L.J. 101-104 (1987); House Subcomm. On Oversight and Investigations of the Comm. On Interstate and Foreign Commerce, 96th Cong., 2d Sess., *Infant Formula: Our Children Need Better Protection* 3 (Comm. Print 96-IFC 42).

- 79 21 U.S.C. § 350a (1980); Infant Formula Act of 1980, Pub L. No. 96-359, 94. 1190 (codified at 21 U.S.C. §§ 350a, 301, 321 (aa), 331, 374(a) (1980)). *See also* Toby Milgrom Lebin, *The Infant Formula Act of 1980: A Case Study of Congressional Delegation to the Food and Drug Administration*, 42 Food Drug Cosm. L.J. 101-104 (1987); House Subcomm. On Oversight and Investigations of the Comm. On Interstate and Foreign Commerce, 96th Cong., 2d Sess., *Infant Formula: Our Children Need Better Protection 3* (Comm. Print 96-IFC 42).
- 80 21 U.S.C. § 350a (1980); Infant Formula Act of 1980, Pub L. No. 96-359, 94. 1190 (codified at 21 U.S.C. §§ 350a, 301, 321 (aa), 331, 374(a) (1980)).
- 81 21 C.F.R. § 107.20(c) (2013).
- 82 21 C.F.R. § 107.20 (2013).
- 83 *See* U.S. Dep't of Agric. Food Safety & Inspection Serv., Requirements for Meat and Poultry Products, *supra* note 59, at 4. USDA does explicitly require a “pack date” for poultry products in the form of a closed code or a calendar date. 9 C.F.R. § 381.126 (2012). *See also* *Labeling Compliance Policy Guide on Poultry Food Product Dating*, U.S. Dep't of Agric., Food Safety & Inspection Serv. 2 (2010), available at [http://www.fsis.usda.gov/PDF/labeling\\_guide\\_on\\_poultry\\_food\\_dating.pdf](http://www.fsis.usda.gov/PDF/labeling_guide_on_poultry_food_dating.pdf).
- 84 *See* U.S. Dep't of Agric., Agric. Mktg. Serv., Ams PY Instruction No. 910, Shell Eggs Grading Handbook, Section 5 (2012); Agric. Mktg. Serv., U.S. Dep't of Agric. *Egg Carton Labeling* (Aug. 15, 2006), available at <http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateN&navID=PYEggCartonLabeling1Nav1-200&rightNav1=PYEggCartonLabeling1Nav1-200&topNav=&leftNav=CommodityAreas&page=PYEggCartonLabeling2&resultType=&acct=pgeninfo>. For all egg products certified by USDA, “all cartons, overwraps, and other types of consumer packages bearing the USDA grademark require legible lot numbering on the consumer package” or a “pack date.” Further, if manufacturers choose to use code dating using terms such as “use by,” “use before,” or “best before” on USDA shield eggs, the date utilized should not exceed 45 from the day the eggs were packed. However, eggs not packed in USDA facilities do not need to follow the same rules, instead, “eggs that are not packed under USDA’s grading program must be labeled and coded in accordance with egg laws in the State where they are packed and/or sold.” *Id.*
- 85 U.S. Dep't of Agric. Food Safety & Inspection Serv., *Food Product Dating*, *supra* note 54.
- 86 *See id.*; 9 C.F.R. §317.8(b)(32)(i) (2013).
- 87 9 C.F.R. § 317.8(b)(32)(2) (2013).
- 88 Nat'l Inst. of Standards & Tech., U.S. Dep't of Commerce, Handbook 130: Uniform Laws and Regulations in the Areas of Legal Metrology and Engine Fuel Quality 1 (2013), available at <http://www.nist.gov/pml/wmd/pubs/upload/hb130-13-final.pdf>.
- 89 *About NCWM*, Nat'l Conference on Weights & Measures, <http://www.ncwm.net/about> (last visited July 3, 2013).
- 90 Nat'l Inst. of Standards & Tech., *supra* note 88, at 149.
- 91 *Id.* at 9.
- 92 *Id.* The model regulation recommends two options for implementation—states are advised to either require mandatory open dating or to allow voluntary open dating that must adhere to the strictures of the model regulation.
- 93 *Id.* at 153-55.
- 94 *Id.* at 154-55.
- 95 *See id.*
- 96 *Id.*
- 97 *Id.* at 9-13.
- 98 *Id.*
- 99 *FDA Food Code*, U.S. Dep't of Health & Human Servs., Food & Drug Admin., <http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/default.htm> (last visited Jan. 16, 2013).
- 100 *Id.*
- 101 *Id.*
- 102 *Id.* at §§ 3-202.17, 3-203.11.
- 103 *Id.* at §§ 3-501.17, 3-501.18.
- 104 *Id.* at §§ 3-502.12.
- 105 *Id.* at § 3-202.17, ¶ (A)(2).
- 106 *Id.* at §§ 3-501.17, ¶ (A).
- 107 *Id.*
- 108 *Id.* at § 3-202.17; Ark. Admin. Code 007.04.8-3-202.17; Cal Health & Safety Code §114039 (2011); 4000 Del. Admin. Code §3-202.17 (2013); Ga. Comp. R. & Regs. 40-7-1-.10 (2013); 410 Ind. Admin. Code 7-24-156 (2013); N.J. Admin. Code § 8:24-3.2 (2013); N.D. Admin. Code 33-33-04-03.1 (2013); Okla. Admin. Code § 310:257-5-15 (2013); 7 Pa. Code § 46.246 (2013); 12-5 Vt. Code R. § 30:5-204 (2013); 2 VA. Admin. Code § 5-585-400 (2013); Wis. Admin. Code Agric. Trade & Consumer Prot. §75, App. (2013); AGR FSF 3 Wyo. Code R. § 11 (2013).
- 109 35A Am. Jur. 2d *Food* § 10 (2012). U.S. Const. art 6, cl. 2. “This Constitution, and the Laws of the United States . . . shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.”
- 110 35A Am. Jur. 2d *Food* § 10 (2012).
- 111 Theodore P. Labuza & Lynn M. Szybist, *Current Practices and Regulations Regarding Open Dating of Food Products* 30 (The Retail Food Industry Ctr., Working Paper No. 01, 1999).
- 112 Ga. Comp. R. & Regs. 40-7-1-.02 (2013).
- 113 Ga. Comp. R. & Regs. 40-7-1-.02 (2013); Ga. Comp. R. & Regs. 40-7-1-.26 “Labeling”
- 114 *See* Inst. of Food Technologists, *supra* note 17., at 94.
- 115 The USDA Food Safety and Inspection Service reports that only about forty percent of states require date labeling for some food items, but our research found restrictions in more states. *See* U.S. Dep't of Agric. Food Safety & Inspection Serv., *Food Product Dating*, *supra* note 54.
- 116 105 Mass. Code Regs. § 520.119(F) (2013).
- 117 Massachusetts has adopted one of the more extreme approaches in this regard, requiring a “sell by” or “best if used by” date for the sale of all perishable *and* semi-perishable foods. 105 Mass. Code Regs. § 520.119(D) (2013).
- 118 Md. Code Regs. 10.15.06.10 (2013).
- 119 Minn. Stat. § 31.783 (2013).
- 120 Minn. R. 1520.1900 (2013).
- 121 Minn. R. 4626.0200 (2013).
- 122 Nat'l Inst. of Standards & Tech., *supra* note 88, at 9-13.

- 123 Mich. Comp. Laws Ann. § 289.8107 (2013).
- 124 31-3-5 R.I. Code R. § 21-33-PBP 2.00 (2013).
- 125 N.H. Code Admin. R. Agr 1412.04 (2013), Ga. Comp. R. & Regs. 40-7-1.26 (2013).
- 126 Minn. Stat. § 31.786 (2013); Ohio Rev. Code Ann. § 3715.171 (2013).
- 127 Current as of August 2013. See appendices for qualifications of regulations assessed in this report.
- 128 Current as of August 2013. See appendices for qualifications of regulations assessed in this report. Note that the type of date after which sale is restricted varies.
- 129 Alabama is unique in that it is the only state that does not affirmatively require the presence of date labels on any foods but then regulates such date labels once they are applied to foods and in some cases forbids the sale of foods after those dates. See Ala. Code Ann. § 20-1-27 (2013); Ala. Admin. Code r. 420-3-22.03 (2013); Ala. Admin. Code r. 420-3-22.03 (2013).
- 130 Current as of August 2013. See appendices for qualifications of regulations assessed in this report.
- 131 Note that states define “perishable foods” differently, so this term may include some variety of the other food items listed here, such as eggs, meat, and dairy.
- 132 Potentially hazardous foods are generally defined as those foods that require time/temperature control for safety. However, different states include various food items within their definitions of potentially hazardous foods, so this term may include some variety of the other food items listed here, such as eggs, meat, and dairy.
- 133 Baltimore, Md. Code § 6-505.1 (2009).
- 134 Telephone interview with representative of N.Y. State Dep’t. of Agric. & Mktg. (Nov. 28, 2011).
- 135 Dep’t of Health & Mental Hygiene, Board of Health, Notice of Adoption of a Resolution Repealing Articles 111 and 117 of the New York City Health Code 2 (2010), *available at* <http://www.nyc.gov/html/doh/downloads/pdf/notice/2010/notice-article-111-117-noa.pdf>.
- 136 *Id.* at 3.
- 137 *Id.*
- 138 Eastern Research Grp., Inc., *supra* note 55, at 1-12.
- 139 *Id.*
- 140 See Christine Blank, *Good News on Unsaleables?*, Supermarket News (July 19, 2004), <http://supermarketnews.com/archive/good-news-unsaleables>.
- 141 *Id.*
- 142 Food Mktg. Inst., *The Sustainability Opportunity for Retail and Wholesale Executives*, *available at* <http://www.fmi.org/industry-topics/sustainability/key-sustainability-tools-and-resources/getting-started-tools> (click on “The Sustainability Opportunities for Retail and Wholesale Executives”) (last visited July 22, 2013) (indicating that 92% of consumers agree that it is important for the U.S. food industry “to be more proactive about addressing environmental concerns.”)
- 143 Aristeidis Theotokis et al., *Effects of Expiration Date-Based Pricing on Brand Image Perceptions*, 88 J. of Retailing 72, 72 (2012) (highlighting findings of consumer behavior studies showing that expiration date-based pricing (EDPB) may “generate positive consumer evaluations when framed as a cause-related marketing activity to reduce waste”). See also Michael Tsiros & Carrie M. Heilman, *The Effect of Expiration Dates and Perceived Risk on Purchasing Behavior in Grocery Store Perishable Categories*, 69 J. of Mktg. 114, 115-16 (2005) (marketing study modeling “the process by which consumers formulate perceptions of brand quality after [] exposure to EDPB practice”).
- 144 Eastern Research Grp., Inc., *supra* note 55, at 3-6.
- 145 Eastern Research Grp., Inc., *supra* note 55, at 3-1.
- 146 *Id.* at 3-4.
- 147 Eastern Research Grp., Inc., *supra* note 55, at 3-6.
- 148 *Id.* at 3-5.
- 149 Eastern Research Grp., Inc., *supra* note 55, at 1-6.
- 150 Telephone Interview with Doug Rauch, former retail executive (Dec. 3, 2012).
- 151 Eastern Research Grp., Inc., *supra* note 55, at 3-2.
- 152 Labuza & Szybist, *Current Practices and Regulations*, *supra* note 55, at 10.
- 153 Eastern Research Grp., Inc., *supra* note 55, at 3-2.
- 154 Eastern Research Grp., Inc., *supra* note 55, at 3-10.
- 155 Dan Charles, *Don't Fear that Expired Food*, NPR (Dec. 26, 2012), <http://www.npr.org/blogs/thesalt/2012/12/26/167819082/dont-fear-that-expired-food> (last visited July 3, 2013).
- 156 Eastern Research Grp., Inc., *supra* note 55, at 3-1.
- 157 *Id.* at 3-9.
- 158 *Id.* at 3-10.
- 159 *Id.*
- 160 The FDA’s infant formula guidelines for testing with regard to nutrient content represent one important exception. See 21 C.F.R. § 107.20 (2013).
- 161 Labuza & Szybist, *Current Practices and Regulations*, *supra* note 111, at 40.
- 162 Eastern Research Grp., Inc., *supra* note 55, at 3-13.
- 163 Mary Bender Brandt et al., Ctr. for Food Safety & Applied Nutrition, FDA, *Prevalence of Food Safety, Quality, and Other Consumer Statements on Labels of Processed, Packaged Foods*, 23 Food Protection Trends 870, 876 (2003).
- 164 See Blank, *supra* note 140.
- 165 Bender, *supra* note 163.
- 166 Directive 2000/13/EC of the European Parliament and the Council on the approximation of the laws of the Member States, Art. 3 (“E.U. Food Labeling Directive”). The Directive is implemented in Great Britain by the Food Labelling Regulations 1996 (FLR). According to the FLR, “food ready for delivery to the ultimate consumer or to catering establishments must carry an ‘appropriate durability indication,’” in the form of either a “best before” date or a “use by” date. Great Britain Food Labelling Regulations 1996, 1996 No. 1499 (20)-(22).
- 167 *Id.* at 11.

- 168 Bus. Reference Panel, *Better Regulation of 'Use by' Date Labelled Foods: A Business Review 6* (2011). According to the FLR, it is an offense to sell food after the use-by date. This is unique to the United Kingdom, and is not required in the E.U. Food Labeling Directive.
- 169 See Dep't for Env't, Food & Rural Affairs, *Guidance on the Application of Date Labels to Food* (Sept. 2011).
- 170 *Id.* at 14. The decision tree explains to manufacturers that "'best before' dates relate to food quality, including taste, texture, aroma and appearance, whilst 'use by' dates relate to food safety." Thus "best before" is appropriate for the vast majority of foods, and "'use by' is the required form of date mark for those foods which are highly perishable from a microbiological point of view and which are in consequence likely after a relatively short period to present a risk of food poisoning." *Id.* at 6-7.
- 171 *Id.* at 7.
- 172 Telephone Interview with Dr. Theodore P. Labuza, Professor of Food Science, Univ. of Minn. (Oct. 10, 2012).
- 173 Serri Graslie, *Willing To Play The Dating Game With Your Food? Try A Grocery Auction*, NPR (Aug. 23, 2012), <http://www.npr.org/blogs/thesalt/2012/08/23/159601015/willing-to-play-the-dating-game-with-your-food-try-a-grocery-auction>.
- 174 Office of Tech. Assessment, *supra* note 15, at 21; Labuza & Szybist, *Current Practices and Regulations*, *supra* note 15, at 20.
- 175 U.S. Dep't of Agric. Food Safety & Inspection Serv., *Food Product Dating*, *supra* note 54.
- 176 See Eastern Research Grp., Inc., *supra* note 55, at 4-11.
- 177 Katherine M. Kosa et al., *Consumer Knowledge and Use of Open Dates: Results of a Web-Based Survey*, 70 J. of Food Protection 1213, 1218 (2007).
- 178 *Id.*
- 179 U.S. Dep't of Agric. Food Safety & Inspection Serv., *Food Product Dating*, *supra* note 54.
- 180 Food Mktg. Inst., U.S. Grocery Shopper Trends 144 (2011). Another study found that sixteen percent of consumers typically throw out milk on its "sell by" date. Labuza & Szybist, *Open Dating of Foods*, *supra* note 23, at 92.
- 181 The report was sponsored by the U.S. Department of Agriculture, Food Safety and Inspection Service; U.S. Department of Health and Human Services, Food and Drug Administration, and Centers for Disease Control and Prevention; U.S. Department of Commerce, National Marine Fisheries Service; and the U.S. Department of Defense, Veterinary Service Activity.
- 182 Ransom, *supra* note 18, at 1763.
- 183 Eastern Research Grp., Inc., *supra* note 55, at 4-11 to -12.
- 184 *Id.* at 4-11 to -12; Kosa et al., *supra* note 177, at 1218.
- 185 Shirley J. Van Garde & Margy J. Woodburn, *Food Discard Practices of Householders*, 87 J. of The Am. Dietetic Ass'n 322, 329 (1987).
- 186 Office of Tech. Assessment, *supra* note 15, at 6.
- 187 U.S. Dep't of Agric., Food Safety and Inspection Serv., *Food Product Dating*, *supra* note 54.
- 188 Brandt et al., *supra* note 163, at 872.
- 189 Bus. Reference Panel, *supra* note 168, at 19.
- 190 Interview with Dr. Theodore P. Labuza *supra* note 172; telephone Interview with Dr. Elliot Ryser, Professor of Food Science & Human Nutrition, Mich. State Univ. (Nov. 1, 2012). Susceptible populations include pregnant women, older adults, and those with chronic illnesses such as AIDS, cancer, and diabetes. See *Who's At Risk*, FoodSafety.gov, <http://www.foodsafety.gov/poisoning/risk> (last visited Sept. 5, 2013).
- 191 Bus. Reference Panel, *supra* note 168, at 19.
- 192 See Labuza & Szybist, *Current Practices and Regulations*, *supra* note 111, at 11-15.
- 193 Van Garde & Woodburn, *supra* note 185, at 329.
- 194 Labuza & Szybist, *Current Practices and Regulations*, *supra* note 111, at 19-20.
- 195 Office of Tech. Assessment, *supra* note 15, at 21.
- 196 Bus. Reference Panel, *supra* note 168, at 1.
- 197 Kosa et al., *supra* note 177, at 1218.
- 198 Ctr. for Food Safety & Applied Nutrition, Food & Drug Admin. & Food Safety & Inspection Serv., U.S. Dep't of Agric., *Quantitative Assessment of Relative Risk to Public Health from Foodborne Listeria monocytogenes Among Selected Categories of Ready-to-Eat Foods viii* (2003) [hereinafter *Quantitative Assessment*].
- 199 *Id.* at viii.
- 200 Ransom, *supra* note 18., at 1762.
- 201 *Id.* at 1770.
- 202 *Id.* at 1761-66.
- 203 The National Advisory Committee on Microbiological Criteria for Foods defines "Safety-Based Date Label (SBDL)" thusly: "Labeling information regarding storage time to control the risk of illness from psychotropic pathogens. An SBDL may be a day/month/year or the number of days after purchase or opening and may include other statements such as "keep refrigerated" or "store below 40° F." Ransom, *supra* note 18, at 176-63.
- 204 Interview with Dr. Theodore P. Labuza, *supra* note 172. The National Advisory Committee on Microbiological Criteria for Foods (NACMCF) has defined Ready-to-Eat products as "food that is in edible form without additional preparation to achieve food safety (such as heating) but may receive additional preparation for palatability or aesthetic, epicurean, gastronomic, or culinary purposes." Ransom, *supra* note 18, at 1763.
- 205 Ransom, *supra* note 18, at 1765. Cumulatively, these outbreaks accounted for 487 illnesses, 235 hospitalizations, and 111 fatalities. *Id.* Overall, there are approximately 1,600 cases of listeriosis every year in the U.S. *Listeria: Statistics*, Ctr. for Disease Control and Prevention, <http://www.cdc.gov/listeria/statistics.html> (last visited Apr. 13, 2013).
- 206 Ransom, *supra* note 18, at 1765 (2005) (noting that ready-to-eat foods were implicated in 9 outbreaks and were suspected contributors in a number of the remaining cases; the only other suspected products were raw vegetables, shrimp, deli meats, and hot dogs).

- 207 See Amit Pal et al., *Safety-Based Shelf Life Model for Frankfurters Based on Time To Detect Listeria Monocytogenes with Initial Inoculum Below Detection Limit*, 72 J. Food Protection 1878, 1882-83 (2009) (discussing the benefits of using a Time-Temperature Integrator tag or a time-temperature data logger to account for temperature abuse).
- 208 See generally U.S. Food & Drug Admin., *FDA Food Code*, *supra* note 99.
- 209 See *id.* § 3.
- 210 See *id.* § 3-501.17 (requiring that potentially hazardous ready-to-eat foods be “clearly marked to indicate the date or day by which the food shall be consumed on the premises, sold, or discarded”).
- 211 See Guidance on Labeling of Foods That Need Refrigeration by Consumers, 62 Fed. Reg. 8248, 8251 (Feb. 24, 1997). See also Quantitative Assessment, *supra* note 198, at xv (noting that “reformulation of products to reduce their ability to support the growth of *Listeria monocytogenes* or encouraging consumers to keep refrigerator temperatures at or below 40° Fahrenheit” are important parallel interventions); Ransom, *supra* note 18, at 1772 (“[T]he impact of temperature on the risk of listeriosis [is] significantly greater than the impact of time.”).
- 212 Quantitative Assessment, *supra* note 198, at xii.
- 213 *Id.* at xiv.
- 214 *Id.*
- 215 *Id.* at viii.
- 216 Conn. Agencies Regs. § 19-13-B42(m)(1)(F) (2012).
- 217 *Listeriosis (Listeria) and Pregnancy*, Centers for Disease Control and Prevention, <http://www.cdc.gov/pregnancy/infections-listeria.html> (last visited Aug. 10, 2013).
- 218 The need for targeted, tailored interventions is reinforced by the complexities inherent in implementing any regulatory labeling scheme. See Ransom, *supra* note 18, at 1762, 1768.
- 219 A similarly tailored approach can be seen in the FDA’s regulation of infant formula, which is a discrete category of products for which specialized labeling regulations have been successfully implemented at the federal level. FDA mandates date labels on infant formula to ensure product quality – not microbial safety. See 21 C.F.R. § 107.20 (2013) (“A “Use by \_\_\_\_\_” date, the blank to be filled in with the month and year selected by the manufacturer, packer, or distributor of the infant formula on the basis of tests or other information showing that the infant formula, until that date, under the conditions of handling, storage, preparation, and use prescribed by label directions, will: (1) when consumed, contain not less than the quantity of each nutrient, as set forth on its label; and (2) otherwise be of an acceptable quality (e.g., pass through an ordinary bottle nipple).”).
- 220 Buzby & Hyman, *supra* note 7, at 561.
- 221 Bloom, *supra* note 2, at xii.
- 222 *Id.*
- 223 Buzby & Hyman, *supra* note 7, at 566. (stating that per capita food loss is \$390/year, putting the total food loss per family of four at \$1,560/year). Another study, using 2009 USDA price data, calculated the average annual value of avoidable food loss to be \$1600 for a family of four. Kumar Venkat, *The Climate Change and Economic Impacts of Food Waste in the United States*, 2 Int. J. Food System Dynamics 431, 441 (2011).
- 224 Bloom, *supra* note 2, at 187.
- 225 Bloom, *supra* note 2, at 187; Gunders, *supra* note 1, at 12.
- 226 See Hall et al., *supra* note 9, at 2.
- 227 See Env’tl. Prot. Agency, *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2010*, at 6 (2010), available at [http://www.epa.gov/osw/nonhaz/municipal/pubs/msw\\_2010\\_rev\\_factsheet.pdf](http://www.epa.gov/osw/nonhaz/municipal/pubs/msw_2010_rev_factsheet.pdf).
- 228 *Wastes: Reducing Food Waste for Businesses*, Env’tl. Prot. Agency, <http://www.epa.gov/wastes/conserves/foodwaste/> (last visited Apr. 18, 2013).
- 229 See Hall et al., *supra* note 9, at 3.
- 230 WRAP, *supra* note 12, at 9.
- 231 Ransom, *supra* note 18, at 1763.
- 232 Van Garde & Woodburn, *supra* note 185, at 324-25.
- 233 Blank, *supra* note 140.
- 234 Raftery Resource Network, Inc., *Expired Product Project, Developed for the Joint Industry Unsaleables Steering Committee of Grocery Manufacturers of America & Food Marketing Institute 2* (July 2003) available at <http://www.gmaonline.org/downloads/research-and-reports/expiredproducts.pdf>.
- 235 Interview with Doug Rauch, *supra* note 150; Interview with Jose Alvarez, former President and CEO of Stop & Shop/Giant-Landover, Professor, Harvard Bus. Sch., in Allston, MA. (Nov. 9, 2012).
- 236 Nat’l Inst. of Standards & Tech., *supra* note 88, at 149.
- 237 Telephone Interview with Mitzi Baum, Dir. of Food Safety, Feeding America (Mar. 28, 2013).
- 238 Examples include Lovin’ Spoonful, <http://www.lovinspoonfulsinc.org> (last visited July 3, 2013) (food rescue organization based in Boston); Food Recovery Network, <http://www.foodrecoverynetwork.org> (last visited July 3, 2013) (organization with multiple chapters across college and university campuses in the United States); and Second Harvest, <http://secondharvest.ca> (last visited July 3, 2013) (a large-scale food recovery operation based in Toronto).
- 239 See Gunders, *supra* note 1, at 11; Bloom, *supra* note 2, at 165; see also Serri Graslíe, *Buying Food Past Its Sell-By Date Tough To Swallow For Greeks*, NPR (Oct. 23, 2012), <http://www.npr.org/blogs/thesalt/2012/10/23/163469018/buying-food-past-its-sell-by-date-tough-to-swallow-for-greeks?sc=emaf> (last visited July 3, 2013) (describing efforts by the Greek government to encourage food stores to discount past-date foods).
- 240 For example, in eastern Pennsylvania, the Amish legally operate several stores that sell “expired” food at discounted prices. See Ryan Owens, *High Grocery Bills? Get Great Deals on Dated Food*, ABC News (Mar. 3, 2008), <http://abcnews.go.com/Business/story?id=4472941&page=1#.TsNA9Zz6ZWJ> (last visited July 3, 2013).
- 241 See Graslíe, *supra* note 173.
- 242 Telephone Interview with Mitzi Baum, Dir. of Food Safety, and Wayne Melichar, Manager of Food Safety, Feeding America (Nov. 20, 2012).

- 243 Telephone Interview with Jonathan Bloom, author of *American Wasteland* (Oct. 4, 2012).
- 244 Interview with Mitzi Baum, *supra* note 237.
- 245 *See, e.g.*, Bill Emerson Good Samaritan Food Donation Act, 42 U.S.C. § 1791 (1996).
- 246 Interview with Mitzi Baum, *supra* note 237.
- 247 *See* Ransom, *supra* note 18, at 1763.
- 248 Directive 2000/13/EC, *supra* note 166.
- 249 Dep't for Env't, Food & Rural Affairs, *supra* note 169, at 7.
- 250 *See id.*; WRAP, *supra* note 12, at 10 (noting that “one study suggests that, although “display until” dates are understood correctly by the majority (81%), they are used by some consumers to judge food quality (20%) and safety (6%)”).
- 251 Dep't for Env't, Food & Rural Affairs, *supra* note 169, at 7.
- 252 *See, e.g.*, interview with Doug Rauch, *supra* note 150; Bloom, *supra* note 2, at 163-67 (discussing the solution proposed by Hilary Benn and Phil Lempert to obscure sell-by dates).
- 253 Food Mktg. Inst., *The Sustainability Opportunity for Retail and Wholesale Executives, Improving Supply Chain Practices for Open Dated Products* (2007), *available at* [http://www.fmi.org/forms/store/ProductFormPublic/search?action=1&Product\\_productNumber=2202](http://www.fmi.org/forms/store/ProductFormPublic/search?action=1&Product_productNumber=2202).
- 254 Notably, USDA regulations currently allow manufacturers to optionally include this kind of “qualifying” language on their date labels. *See* 9 C.F.R. § 381.129 (2013); 9 C.F.R. § 317.8 (2013).
- 255 *See, e.g.*, 21 C.F.R. §101.93 (2013) (mandating disclaimer for certain dietary supplement claims).
- 256 U.S. Dep't of Agric. Food Safety & Inspection Serv., *Food Product Dating*, *supra* note 54.
- 257 WRAP, *Freezing refrigerated food - Labelling decision tree* (2011), *available at* <http://www.wrap.org.uk/sites/files/wrap/Freezing%20decision%20tree.pdf>.
- 258 FDA's infant formula regulation requires that manufacturers set a “use by” date “on the basis of tests or other information” showing that the formula will remain of sufficiently high quality “under the conditions of handling, storage, preparation, and use prescribed by label directions.” 21 C.F.R. § 107.20 (c) (2013).
- 259 *See* U.S. Dep't of Agric., *Recommendations of the National Advisory Committee on Microbiological Criteria for Refrigerated Foods* 19 (1990) (recommending that “KEEP FROZEN” and “MUST BE KEPT REFRIGERATED” warnings be affixed to food packages and that they be accompanied by a “corresponding logo”). *See generally* Ransom, *supra* note 18, at 1761.
- 260 9 C.F.R. § 317.2 (l) (2013); 9 C.F.R. § 381.125 (b) (2013). *See also* U.S. Dep't of Agric., *Kitchen Companion: Your Safe Food Handbook* 10 (2008), *available at* [http://www.fsis.usda.gov/PDF/Kitchen\\_Companion.pdf](http://www.fsis.usda.gov/PDF/Kitchen_Companion.pdf). *See also* U.S. Dep't of Health & Human Servs., *Food Safety, Keep Food Safe*, *available at* <http://www.foodsafety.gov/keep/index.html> (last visited, July 20, 2013).
- 261 *Id.* at 1883; interview with Dr. Theodore P. Labuza, *supra* note 172.
- 262 *See* Pal et al., *supra* note 207, at 1883.
- 263 Interview with Dr. Theodore P. Labuza, *supra* note 172.
- 264 Pal et al., *supra* note 207, at 1883.
- 265 *See, e.g.*, *Waste Watch: Food Fresh Labels*, Insignia Technologies, <http://www.insigniatechnologies.com/portfolio-view/waste-watch-food-fresh-indicators/> (last visited July 15, 2013); *The UWI Label*, UWI Technologies, <http://www.uwitechnology.com/pages/label.html> (last visited July 15, 2013).
- 266 Labuza & Szybist, *Current Practices and Regulations*, *supra* note 111, at 27.
- 267 In the 1970s, FDA had even asserted that it had the ability to regulate date labels under its *existing* labeling jurisdiction, without the need for additional amendments to the FD&C Act. FDA has broad powers to regulate misbranded food, including misleading labels, under the FD&CA. 21 U.S.C. § 331 (b) (2012). *See also* 21 U.S.C. § 343 (2012). *See* Gov't Accountability Office, *supra* note 19, at 49.
- 268 21 U.S.C. § 321(n) (2012). *See also* 21 U.S.C. § 341 (2012).
- 269 *See* Nat'l Inst. of Standards & Tech., *supra* note 88, at 154-56.
- 270 Kosa et. al., *supra* note 177, at 1218; Ransom, *supra* note 18, at 1763.
- 271 Van Garde & Woodburn, *supra* note 185, at 329.
- 272 *See Fact Sheet: Refrigeration and Food Safety*, U.S. Dep't of Agric., [http://www.fsis.usda.gov/wps/portal/ffsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/refrigeration-and-food-safety/CT\\_Index](http://www.fsis.usda.gov/wps/portal/ffsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/refrigeration-and-food-safety/CT_Index) (last visited August 2, 2013) (providing guidelines regarding the importance of refrigeration and types of bacteria in refrigerated foods).
- 273 Van Garde & Woodburn, *supra* note 185, at 329.
- 274 *See, e.g.*, *Foodkeeper Guide*, FMI, *available at* <http://www.fmi.org/consumer/foodkeeper> (last visited July 3, 2013).
- 275 *See, e.g.*, U.S. Dep't Agric., *Kitchen Companion: Your Safe Food Handbook* 14 (2008), *available at* [http://www.fsis.usda.gov/PDF/Kitchen\\_Companion.pdf](http://www.fsis.usda.gov/PDF/Kitchen_Companion.pdf) (outlining different ways to ensure food safety). *See also* U.S. Dep't of Health & Human Servs., *Food Safety, Keep Food Safe* (last visited, July 20, 2013), *available at* <http://www.foodsafety.gov/keep/index.html>.
- 276 According to federal law, infant formula must include a “use by” date. However, states that further regulate this by banning or restricting past date sales of infant formula are identified in this appendix. 21 C.F.R. § 107.20 (2013).
- 277 Nat'l Inst. of Standards & Tech., U.S. Dep't of Commerce, *Handbook 130: Uniform Laws and Regulations in the Areas of Legal Metrology and Engine Fuel Quality* 13 (2013).
- 278 Infant formula is federally regulated and requires a “use by” date in all states. 21 C.F.R. § 107.20 (2013).
- 279 Infant formula is federally regulated and requires a “use by” date in all states. 21 C.F.R. § 107.20 (2013). Georgia's regulations contain additional language restricting sales after the “use by” date.



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