



Testimony of

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Hearing on
Food Waste from Field to Table

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Chairman Conaway, Ranking Member Peterson, and Members of the Committee, thank you for the opportunity to testify on the laws and policies that can help reduce food waste from field to table. My name is Emily Broad Leib and I am an Assistant Clinical Professor of Law at Harvard Law School and the Director of the Harvard Food Law and Policy Clinic (FLPC), a division of the Center for Health Law and Policy Innovation. FLPC was established in 2010 to provide legal and policy guidance to a range of clients seeking to increase access to healthy foods, assist small and sustainable farmers in breaking into new commercial markets, and reduce waste of healthy, wholesome food, while educating law students about ways to use law and policy to impact the food system.

FLPC has been researching policies to reduce food waste for several years. In September 2013, we published a report with the Natural Resources Defense Council that analyzed the laws regarding expiration dates and explained how these unclear and unregulated labels contribute to an alarming amount of unnecessary food waste. Since the publication of that report, FLPC has continued to work on the challenge of confusing date labels, while also researching other policy opportunities to divert surplus food away from the landfills and into the homes of those in need. Through our work with a range of clients, we have seen intimately the challenges that inhibit food waste reduction and food recovery.

While there is an abundance of food produced in the U.S. every year,¹ a significant amount of this food ends up in business' dumpsters and consumers' trash cans, making its way to landfills instead of the plates of hungry families.² Forty percent of the food produced in the U.S. goes uneaten, resulting in 62.5 million tons of wasted food each year.³ Food waste in the U.S. has been on the rise for the past several decades, with per capita food loss increasing by 50 percent from 1974 to 2005.⁴ A number of federal laws strive to reduce food waste or promote food recovery, yet several barriers limit their effectiveness.

Although the best outcome for the environment is to reduce food waste at the source, the next best outcome, according to the Environmental Protection Agency (EPA) Food Recovery Hierarchy, is ensuring that surplus or unused food is used to feed people.⁵ Fourteen percent of American households were food insecure during 2014, meaning they lacked access to a sufficient amount of food to lead an active, healthy lifestyle at some point during the year.⁶ Since, according to the Food Recovery Hierarchy, the top two priorities are to reduce food waste and get surplus food to people in need, this testimony focuses on opportunities in these two categories. This testimony is divided into four segments which detail several key ways to realign federal policies in order to overcome some of the hurdles that lead to unnecessary food waste or prevent the donation of surplus food.

I. Reducing Food Waste by Standardizing and Clarifying Date Labels

The growing, transporting, processing, and disposing of uneaten food costs the U.S. \$218 billion each year, and an estimated two-thirds of this lost economic value occurs at the household level.⁷ Consumer confusion over date labels is a top driver of this waste.

No national uniform system for date labeling exists in the U.S., which allows companies to use a dizzying array of labels including "sell by," "use by," "best by," and "expires on."⁸ These dates are generally not intended as safety indicators; instead, they signal a manufacturer's estimate of how long food will taste its best. However, consumers mistakenly believe that these dates are indicators of safety, and many report throwing food away once the date passes, due to fear of safety risks. For the small set of foods that carry some risk if consumed after the date, this risk

also is not communicated clearly to consumers. In our work over the past few years, we have identified two key challenges with date labels.

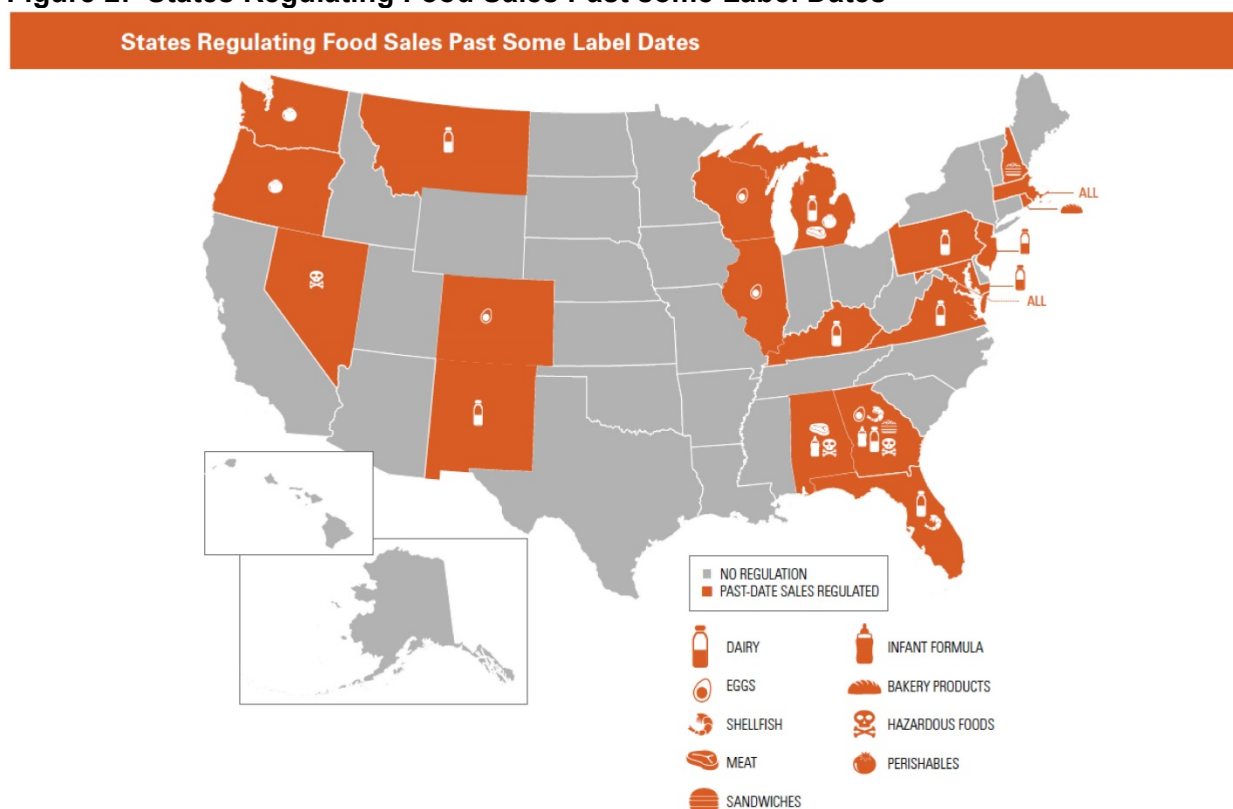
First, as we reported in *The Dating Game*, the absence of federal law governing date labels has allowed states to regulate date labels, leading to a wide range of labeling laws in different states. No two states have the same law, evidence that they are not based in science or sound public policy. Forty-one states plus the District of Columbia require date labels on at least some food items, whereas nine states, including New York, do not require or regulate date labels on any food products (see Figure 1).⁹ The states that regulate date labels also vary greatly in their requirements.¹⁰ Some require the use of labels only on narrow categories of food. New Hampshire, for example, requires date labels only on containers of cream and prewrapped sandwiches.¹¹ Other states have much broader regulations: Massachusetts requires date labels on all prepackaged perishable and semi-perishable food products.¹²

Figure 1: State Requiring Date Labels on At Least Some Food Products



Twenty states and the District of Columbia prohibit or restrict sale or donation of food products once the date has passed (see Figure 2).¹³ These state laws also vary widely. Massachusetts and Oregon allow past-date products to be sold, but impose restrictions on sales, such as requiring them to be clearly labeled as past-date and separated from pre-date products.¹⁴ Montana, which requires milk to bear a “sell by” date of 12 days after pasteurization, prohibits milk from being sold or “otherwise offered for public consumption” after the date.¹⁵

Figure 2: States Regulating Food Sales Past some Label Dates



Second, we have learned that consumers are confused. On most foods, date labels are not intended to communicate safety. Instead, manufacturers choose dates based on how long they estimate the food will taste its best. They use a variety of quality-based methods to determine these dates, including consumer taste tests, literature values, product turnover rates, or consumer complaints.¹⁶

But many consumers throw away food once the date passes because they mistakenly think the date is an indicator of safety. A representative national survey conducted in April 2016 by FLPC, the National Consumers League, and Johns Hopkins Center for Livable Future, found that consumers use date labels to make decisions about discarding food: over one-third always discard food close to or past the date on the label, and 84% do so at least occasionally.¹⁷ A third of consumers also wrongly think that date labels are federally regulated.¹⁸ Wasted food costs the average American family of four \$1,365 to \$2,275 per year.¹⁹ Studies in the United Kingdom found that 20% of household waste is due to date label confusion.²⁰ When consumers misinterpret indicators of quality and freshness for indicators of a food's safety, this increases the amount of food that is unnecessarily discarded.

Consumers are also misled, and potentially put at risk, when they are not warned of foods that may be unsafe after the date. This is the case with certain ready-to-eat foods that are at risk of contamination with *Listeria monocytogenes*. *Listeria* can reproduce under refrigeration, and ready-to-eat foods are not cooked before they are consumed, so the *Listeria* remains on these products.²¹ A joint FDA/USDA study identified several foods in this category, including deli meats and unpasteurized dairy items.²² Clearer date labels could better serve consumers by identifying foods that may become unsafe after the date.

In addition to food waste by consumers, thousands of pounds of food are also needlessly trashed before they reach the consumer because the date has passed. A report sponsored by the Grocery Manufacturers Association and the Food Marketing Institute estimated that about \$900 million worth of inventory was removed from the supply chain in 2001 due to expiration dates.²³ Fifteen years later, this number has likely only increased.

Internationally, most date label regulations, including the standards in place throughout the European Union, utilize a dual label system that requires a standard quality label on foods where freshness is a concern and a standard safety label on foods that carry a safety risk past the date.²⁴ ReFED, a collaboration of business, nonprofit, foundation, and government leaders committed to reducing food waste, found in its *Roadmap to Reduce Food Waste by 20 Percent* that standardizing date labels was the most cost effective of 27 potential solutions. They report that standardizing date labels has the potential to divert 398,000 tons of food waste per year and provide \$1.8 billion per year in economic value.²⁵ Having one clear indicator on a food product to let consumers know if it is a quality label or a safety label could reduce food wasted due to consumer confusion and also keep consumers safe.

More education is needed to help ensure past-date food is not needlessly wasted. Standardizing date labels could make it easier for federal agencies and other organizations to conduct such education. Indeed, education will be needed to ensure the success of standard date labels if such standards are created. In addition to reducing waste in consumers' homes, clarifying date labels also can ensure that more wholesome past-date food is donated. Many food businesses are unsure whether past-date food is safe, whether its donation is lawful, and whether they will receive liability protection. This makes them reluctant to donate past-date foods. Further, food bank recipients, like other consumers, are confused about date labels and hesitant to consume past-date foods. Standard date labels could make clear which foods could be safely donated and consumed after the date and which cannot, reducing waste at all levels of the supply chain.

II. Increasing Donations by Food Manufacturers, Retailers, and Restaurants

Great potential also exists to increase the amount of healthy, wholesome food that is donated. ReFED found that consumer-facing businesses, such as retailers and restaurants, generated 40 percent (25 million tons) of food waste and food manufacturers generated 2 percent (1 million tons).²⁶ Yet, according to a report jointly sponsored by the Grocery Manufacturers Association and the Food Marketing Institute, in 2011 only 1.6% of food deemed unsaleable by food manufacturers was recovered for human consumption; among food retailers and wholesalers only 17.9% was recovered.²⁷ The sheer amount of food being sent to the landfill instead of donated in these sectors is evidence that more can and should be done to mitigate food waste.

Food manufacturers and retailers make individual calculations when deciding whether or not to donate surplus foods, but two key elements generally play a role in such decisions: cost and liability. Fortunately, Congress helped to address the cost of donation with the recent fiscal year 2016 omnibus budget, which expanded opportunities to claim an enhanced tax deduction for food donation to all businesses and increased the cap on this deduction (some businesses like farms can still use extra help; see Section IV for more information).²⁸ Federal law also provides very strong liability protection for food donations, yet more can be done to strengthen these liability protections and help tip the scale in business decisions regarding whether to donate.

Liability Protections

Many food manufacturers, retailers, and wholesalers cite fear of liability as a primary deterrent to donating food.²⁹ A 2014 survey conducted by the Food Waste Reduction Alliance, a joint industry task force comprised of leading companies and trade associations in the food, beverage, food service, and food retail industries, found that 67% of food manufacturers and 54% of retailers and wholesalers cite liability as one of the main barriers to food donation.³⁰ However, strong federal and state liability protections exist for the donation of food items.

In 1996, Congress passed the Bill Emerson Good Samaritan Food Donation Act (Emerson Act), which provides a federal floor of civil and criminal liability protection to food donors and non-profit organizations that distribute food.³¹ The Emerson Act protects a broad range of food donors, including individuals, businesses, nonprofit organizations, government entities, and gleaners -- individual or entities that harvest and donate agricultural crops.³² The protection applies so long as they donate “apparently wholesome food” in “good faith” and do not act with intentional misconduct or gross negligence.³³ In addition to this federal protection, all 50 states and Washington, D.C. have passed their own state-level Good Samaritan acts, but the protection provided and foods covered vary from state to state.³⁴

Despite this strong protection, why do so many potential food donors still decline to donate because of liability fears? Food recovery organizations report that many potential donors are unaware of liability protection or the Emerson Act, and it is difficult to spread the word to those who are not already donating.³⁵ Those that do know about the Act are concerned about the lack of authoritative interpretation of its key terms, including “needy individual” and “apparently wholesome food.” The Emerson Act has not been challenged court, so no judicial interpretations of it exist.³⁶ There is also no agency guidance interpreting the Act. Part of the reason for the lack of interpretative guidance is that, unlike many statutes, which delegate power to an agency to interpret and enforce them, authority under the Emerson Act was never assigned to a particular federal agency. Thus, no agency is required to provide federal guidance or raise awareness of the Act. Potential donors have only the 1996 statutory language on which to base decisions regarding their coverage. One way to clarify the scope of the Emerson Act and promote public awareness is to assign authority to a specific executive agency to oversee and interpret this legislation.

In addition, the Emerson Act could be examined for further opportunities to increase food donation. For example, the Emerson Act only covers foods that comply with or are reconditioned to comply with all federal, state, and local quality and labeling standards.³⁷ Federal law includes several labeling requirements, such as name of the food, manufacturer’s address, net quantity of contents, an ingredient list (which includes allergen information) and nutrition facts panel.³⁸ Some of these labels are not necessary to ensure that donated food is safe. Ingredient lists or allergen warnings are important for safety, but the net weight is not. Fear of facing liability due to donating mislabeled food, even if the mislabeling is not pertinent to food safety, is a major impediment to food donation.³⁹ Often food goes to waste precisely because there is a deficiency in its labeling, so salvaging food that is mislabeled in a way not relevant to safety could help to prevent unnecessary waste. The Emerson Act also does not explicitly state that donations of past-date foods are protected from liability and, as a result, past-date food that is perfectly safe for consumption often winds up in landfills.

Despite the strong liability protection in the Emerson Act, many businesses still fail to donate because of liability concerns. The ReFED report found that educating potential food donors on donation liability laws has the potential to divert 57,000 tons of food waste from the landfill.⁴⁰

More can be done to put donors at ease about the protections, raise awareness of the Act, and strengthen its provisions.

Food Safety

Closely related to liability is the issue of compliance with food safety regulations. Even if they know they will be protected from liability, businesses are fearful of doing something that may run afoul of their health inspectors. Most food safety regulations that impact food donation are created at the state level, so businesses have to understand and comply with state regulations and their interpretations by state and local health departments. Yet these regulators and health inspectors often are not aware of the importance of food donations or the best practices for safely and economically donating food. Food donors and recovery organizations lament the lack of guidance on rules for food donation in their states, or the hesitation on the part of health inspectors to allow donation programs to proceed.

States have authority over food safety rules for foods that are sold within the state, but the FDA plays a key role in creating state regulations through dissemination of food safety knowledge through the FDA Food Code. The Food Code is a model code created with the help of the Conference for Food Protection (CFP), an organization made up of industry, government, and consumer groups who develop and promote food safety standards.⁴¹ The Food Code is released every four years and adopted by most states.⁴² However, the Food Code does not include model language regarding donation, meaning states lack guidance on incorporating food donation provisions into their laws.

In the late 1990s, USDA and FDA recognized the need for model guidance regarding food donation and, using the expertise of the CFP, created the Comprehensive Guidelines for Food Recovery Programs.⁴³ The Guidelines provide information on maintaining a safe food recovery program (based on the Food Code); statistics on food waste and food recovery; food recovery activities undertaken by the government; and legal protections for food recovery.⁴⁴ The Guidelines serve as a useful resource; however, they target businesses rather than regulators. The Guidelines are only briefly summarized in the appendix of the Food Code.⁴⁵ Because of the ubiquity of the Food Code,⁴⁶ including food donation language in the Food Code, rather than just mentioning the Guidelines in an appendix, could ensure familiarity with best practices for food donation among state and local food safety officials, who are the ones making decisions about whether to allow regulated businesses to donate. Federal leadership can encourage states to make donation a priority; whether through the addition of language on food donation to the Food Code or otherwise disseminating best practices to state regulators.

In addition to the dissemination challenges, the Guidelines are not updated on a regular schedule. The Guidelines were last released in 2007, yet the FDA Food Code has been updated twice since then, leaving outdated food safety language and guidance in the Guidelines. In April 2016, CFP approved a new version of the Guidelines to be released shortly.⁴⁷ Although new Guidelines will be released this summer, they will soon become outdated if they are not updated regularly. Updating the Guidelines every four years, the same rate the FDA Food Code, could ensure that the Guidelines stay up to date.⁴⁸

Each year, food manufacturers, wholesalers, and retailers waste billions of pounds of food. Clarifying the language of the Emerson Act, removing some of the non-essential restrictions in the Emerson Act, and regularly providing food safety guidance that better targets state regulators can dispel some of the concerns with liability and help reduce the amount of food unnecessarily wasted each year.

III. Supporting Innovative Food Recovery Models

In recent years, organizations and individuals have begun to test entrepreneurial approaches to food recovery. Our clients and partners are testing technologies to connect donors and recovery organizations, converting nonconforming fruits and vegetables into new products, like juices and soups, or applying retail models to provide surplus food at a low cost.⁴⁹ As often happens, innovations could not be predicted when laws were created, and several existing laws pose barriers. This Committee could further research ways to support innovation.

As one example, some non-profit organizations are following the model of “social supermarkets,” popularized in Europe, to sell surplus foods in a low-cost grocery.⁵⁰ These organizations can fill a need in communities where individuals are food insecure or lack regular food access, but for various reasons are not willing or able to qualify for government assistance or use a food pantry or soup kitchen. They also offer the potential for a sustainable solution to food recovery, as they can use customer payments to offset the costs of labor, storage, and transportation of recovered food. ReFED’s *Roadmap* found that innovative retail models and secondary resellers have the potential to divert 167,000 tons of food waste per year and provide \$36.4 million per year in economic value.⁵¹

But these models face several challenges to their success. For example, food donations to these organizations are not protected under the Emerson Act unless the ultimate recipient “does not have to give anything of monetary value.”⁵² The Act does not provide liability protection to the food donor when the ultimate recipient pays, even at a reduced rate, for the food. The protection under the Act does not need to be structured in this way. For example, Massachusetts provides liability protection to those who donate to a nonprofit that charges the final recipient for food at a level to “cover the cost of handling such food.”⁵³ Oregon provides liability protection to donors who give to a nonprofit that charges the final recipient based “on a scale reflecting ability to pay or only requiring a shared maintenance contribution.”⁵⁴ These examples show ways to offer liability protection to innovative nonprofit food recovery organizations and their donors. Notably, although these organizations are selling food instead of giving it away for free, they are still nonprofit organizations organized and operated solely “for religious, charitable, or educational purposes.”⁵⁵ The nonprofit requirement ensures that food and any profits will be used for a charitable purpose. Any revenue-generating activities of these organizations would be conducted in furtherance of the enterprise’s social mission, rather than for profit-maximizing purposes.

The Emerson Act was enacted to encourage food donations; however, the “no-charge” provision deters donors from donating to innovative nonprofit social supermarkets and discourages traditional food recovery organizations from testing out new models. Similarly, the federal enhanced tax deduction for food donation limits the enhanced deduction to foods that are given away for free to needy individuals and not “in exchange for money, other property, or services,”⁵⁶ meaning donations made to organizations that sell the food are not eligible for the enhanced deduction. Food donors are less likely to donate to an innovative food recovery organization that is not covered by the federal liability protection and cannot offer them an enhanced tax deduction when they could instead donate to an organization that provides liability protection and an enhanced deduction, hampering the development of these new organizations.

These provisions also constrain traditional food recovery organizations from broadening their offerings. According to a report by Feeding America, “Emergency food from pantries . . . are now a part of households’ long term strategies to supplement monthly shortfalls in food.”⁵⁷ As a result of this increasing demand, “[F]ood banks across the nation continue to be stretched thin

in their efforts to meet sustained high need in the wake of the recession.”⁵⁸ Since these organizations rely on food donations, it would be counterproductive to do anything that prevents their donors from receiving the enhanced deduction or causes them to lose their liability protection, such as selling the donated food at a low cost. Food banks struggle to receive not only donations of wholesome, safe food, but also to receive monetary donations to help pay their labor, transportation, administrative, and other costs. Providing some of their food offerings for sale using a low-cost grocery model could help to bring in income and support their broader operations, while potentially serving a broader client base. Organizations like Goodwill and Salvation Army offer a model of using sales of certain items to raise money to support their free services. Allowing food banks to do the same would help to finance their ongoing work supporting individuals and families, while serving a broader population.

The lack of liability protections or eligibility for enhanced tax deductions for donors to nonprofit “social supermarkets” offer just a few examples of the types of barriers that exist to innovation in the field of food recovery. Other innovative new models are struggling with a variety of similar or diverse challenges. Federal leadership could help to catalogue these barriers and evaluate whether modifications could create a friendlier climate for food recovery innovation while supporting the ultimate goals of food waste reduction, food safety, and food security.

IV. Improve Opportunities to Recover Wholesome, Fresh Food from the Farm

On farms, approximately 10.1 million tons of food remain unharvested each year, often because market conditions make harvest uneconomical, leaving edible produce to rot in the field.⁵⁹ Even more crops are wasted post-harvest because they do not meet quality or appearance criteria, thus rendering them unsaleable despite being edible and nutritious.⁶⁰ While farms have an abundance of food that could be donated, preparing, storing, and transporting this food for donation can be quite expensive.

Farmers have to pay additional labor costs to harvest the crops that would otherwise be left in the fields. The food needs to be stored, cooled, and packed until it is ready to be delivered to a food recovery organization.⁶¹ The cost of preparing the food for donation can be large—packing and cooling donated produce alone could cost thousands of dollars,⁶² and meat from surplus animals must be processed into edible food before it is donated, which could also be quite expensive.

This food must then be transported to a food recovery organization. Transporting donated food requires a vehicle (sometimes one with refrigeration), a driver, gas, and other vehicle maintenance and repair expenses. This can be quite costly: one food recovery organization that uses refrigerated trucks to rescue and deliver surplus food estimates that it spends \$9,900 a week to run, maintain, and repair its four trucks, pay its drivers, and cover additional operating costs.⁶³ Many farmers rely on volunteer groups or food recovery organizations to transport the food for them. But in the many cases where local food recovery organizations simply do not have the capacity to transport the food, would-be donors find it more cost-effective to let the food rot in the field instead of paying for transportation.⁶⁴

To help address some of the costs involved in donating food, the federal government (and several state governments) provides tax incentives. There are two types of federal tax incentives available for food donors—a general deduction that applies to all charitable contributions and an enhanced tax deduction that applies to qualified food donations. In comparison to the general deduction (which only allows a business to deduct the basis value of

the product), the enhanced deduction allows businesses to deduct almost twice as much as the general deduction. It allows businesses to deduct the smaller of (a) twice the basis of the donated food or (b) the basis of the donated food plus one-half of the food's expected profit margin.⁶⁵

FLPC applauds Congress on the fiscal year 2016 omnibus budget, which expanded opportunities to claim the enhanced tax deduction to all qualifying businesses that donate food; in the past, the enhanced deduction was only available to C-corporations.⁶⁶ The 2016 omnibus budget also increased the overall cap for the enhanced deduction, strengthened and clarified the formula for calculating the deduction, and clarified the method for determining the FMV of unsaleable food products.⁶⁷ Congress has taken a significant step toward increasing food donations. Congress or an executive agency should monitor the effectiveness of the expansion of the enhanced tax deduction over time to determine if further changes need to be made to encourage food donations.

Despite expansion of the availability of federal tax incentives, the costs involved in donating food still pose challenges for farmers. One challenge is that farmers operate with very low profit margins.⁶⁸ Most U.S. farms are not profitable at all as ongoing businesses.⁶⁹ According to the U.S. Department of Agriculture (USDA), 69 percent of all U.S. farms were in the operating profit margin (OPM) "critical zone" in 2013.⁷⁰ Profit margins are even worse for smaller farms, which might not earn enough from the sale of farm produce and services to cover their expenses.⁷¹ Since many farmers operate on a low profit margin, it is difficult for them to benefit from a tax deduction because a deduction only reduces the amount of taxable income, meaning the value of the deduction is contingent on the amount of taxable income (which, for farms and especially small farms, might not be very large.)

Another challenge to donation by farmers or other low-profit-margin businesses is the lack of coverage for the ancillary costs of food donation. As outlined previously, farms face the steepest costs in getting food to food recovery organizations. Yet, the enhanced deduction does not explicitly provide coverage for the ancillary costs associated with food recovery.⁷² It is not in the financial interest of farmers to incur these costs when they are not offset by tax incentives, thus, much of this food continues to go to waste. California helps alleviate some of these costs by offering a tax credit that explicitly covers 50% of the costs incurred by the taxpayer in connection with the transportation of donated food.⁷³ Because many businesses cite the costs of transporting donated food items as a key barrier to donation, California's model is worth analyzing for potential applicability nationally.

Because many farms operate on very low profit margins, any additional economic benefit they can receive for excess food that they grew but could not sell could increase their profit margins and keep them in business. At the same time, food straight from the farm is often some of the healthiest food available, so incentivizing the donation of this food can greatly benefit food insecure Americans. A tax credit, which is not contingent on the size of a donor's taxable income, could provide a larger incentive for farmers. To offset the specific costs that are most problematic for farmers, such a credit could also explicitly provide coverage for the ancillary costs associated with food donation, like transportation or storage. Other incentive models should also be examined for potential to address the unique challenges and costs faced by farmers attempting to recover healthy, wholesome food.

V. Conclusion

Forty percent of the food produced in the U.S. goes uneaten, resulting in 62.5 million tons of wasted food each year.⁷⁴ This waste results in the loss of natural resources, including the 25% of the U.S.'s fresh water and 300 million barrels of oil that are used to produce food that ends up in landfills.⁷⁵ Food waste presents a grave threat to our economy, our health, and our environment. It has been estimated that redistributing just 30 percent of all the food lost in the United States could feed every food insecure American their total diet.⁷⁶ Despite several compelling policies, current laws still perpetuate barriers to food conservation and recovery. Addressing the barriers identified above can significantly reduce the amount of food waste and increase the amount of healthy, safe and wholesome food recovered across the food system.

References

- ¹ Mark Bittman, *How to Feed the World*, N.Y. Times, (Oct. 14, 2013), http://www.nytimes.com/2013/10/15/opinion/how-to-feed-the-world.html?pagewanted=all&_r=0.
- ² ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 12 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ³ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 10 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ⁴ Kevin D. Hall et al., *The Progressive Increase of Food Waste in America and Its Environmental Impact*, 4 PLoS ONE 1, 2(2009), <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0007940#pone-0007940-g001>.
- ⁵ The Food Recovery Hierarchy, U.S. Env'tl. Prot. Agency, <https://www.epa.gov/sustainable-management-food/food-recovery-hierarchy> (last updated March 31, 2016).
- ⁶ Alisha Coleman-Jensen et al., U.S. Dep't of Agric., Econ. Research Serv., *Household Food Security in the United States in 2014* 4 (2015), <http://www.ers.usda.gov/publications/err-economic-research-report/err194.aspx>.
- ⁷ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 12 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ⁸ Emily Broad Leib, Natural Res. Def. Council & Harvard Food Law & Policy Clinic, *The Dating Game: How Confusing Food Labels Lead to Food Waste in America* 9 (2013), <http://www.chlpi.org/wp-content/uploads/2013/12/dating-game-report.pdf>.
- ⁹ Emily Broad Leib, Natural Res. Def. Council & Harvard Food Law & Policy Clinic, *The Dating Game: How Confusing Food Labels Lead to Food Waste in America* app. B at 32 (2013), <http://www.chlpi.org/wp-content/uploads/2013/12/dating-game-report.pdf>.
- ¹⁰ Emily Broad Leib, Natural Res. Def. Council & Harvard Food Law & Policy Clinic, *The Dating Game: How Confusing Food Labels Lead to Food Waste in America* app. C at 35-54 (2013).
- ¹¹ See, e.g., N.H. Rev. Stat Ann. §184:30-g (2016); N.H. Code Admin. R. Agr. 1412.04 (2016).
- ¹² 105 Mass. Code Regs. 520.119 (2016).
- ¹³ Emily Broad Leib, Natural Res. Def. Council & Harvard Food Law & Policy Clinic, *The Dating Game: How Confusing Food Labels Lead to Food Waste in America* 26 (2013), <http://www.chlpi.org/wp-content/uploads/2013/12/dating-game-report.pdf>.
- ¹⁴ See, e.g., 105 Mass. Code Regs. 520.119(f) (2016); Or. Rev. Stat. § 616.825 (2016).
- ¹⁵ Mont. Admin. R. 32.8.202 (2016).
- ¹⁶ Emily Broad Leib, Natural Res. Def. Council & Harvard Food Law & Policy Clinic, *The Dating Game: How Confusing Food Labels Lead to Food Waste in America* 17-18 (2013), <http://www.chlpi.org/wp-content/uploads/2013/12/dating-game-report.pdf>.
- ¹⁷ Emily Broad Leib et al., *Consumer Perceptions of Date Labels: National Survey*, (2016), http://www.chlpi.org/wp-content/uploads/2013/12/Consumer-Perceptions-on-Date-Labels_May-2016.pdf.
- ¹⁸ Emily Broad Leib et al., *Consumer Perceptions of Date Labels: National Survey*, (2016), http://www.chlpi.org/wp-content/uploads/2013/12/Consumer-Perceptions-on-Date-Labels_May-2016.pdf.
- ¹⁹ Jonathan Bloom, *American Wasteland* 187 (Da Capo Lifelong Books, 2011).
- ²⁰ *Consumer insight: date labels and storage guidance*, Waste & Resources Action Programme. May 2011. http://www.wrap.org.uk/sites/files/wrap/ES%20Technical%20report%20dates_0.pdf(assumes U.S. home behaviors are equivalent to those in U.K.).
- ²¹ Centers for Disease Control and Prevention, *Listeria* (Jan. 2, 2013), <http://www.cdc.gov/listeria/risk.html>.
- ²² 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* (2003).

-
- ²³ Rafferty 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), <http://www.gmaonline.org/downloads/research-and-reports/expiredproducts.pdf>.
- ²⁴ 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).
- ²⁵ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 33 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ²⁶ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 13 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ²⁷ BSR, *Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, & Wholesalers* 9–10 (2013), http://www.foodwastealliance.org/wp-content/uploads/2013/06/FWRA_BSR_Tier2_FINAL.pdf.
- ²⁸ H.R. 2029, 114th Cong. § 113(a) (2015) (to be codified at I.R.C. § 170(e)(3)(C)).
- ²⁹ Food Waste Reduction Alliance, *Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, and Restaurants*, 13, 16 (2014) http://www.foodwastealliance.org/wp-content/uploads/2014/11/FWRA_BSR_Tier3_FINAL.pdf.
- ³⁰ Food Waste Reduction Alliance, *Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, and Restaurants*, 13, 16 (2014) http://www.foodwastealliance.org/wp-content/uploads/2014/11/FWRA_BSR_Tier3_FINAL.pdf.
- ³¹ 42 U.S.C.A. §1791 (2016).
- ³² 42 U.S.C. A. § 1791 (b)(9) (2016).
- ³³ 42 U.S.C.A. §1791(c) (2016).
- ³⁴ H.R. Rep. No. 104-661, at 3. (1996); D.C. Code Ann. § 48-301 (West 2016).
- ³⁵ See, e.g., Telephone Interview with Emily Malina, Chief Product Officer, Spoiler Alert (Nov. 13, 2015).
- ³⁶ University of Arkansas, *Food Recovery: A Legal Guide* 3 (2013), <http://law.uark.edu/documents/2013/06/Legal-Guide-To-Food-Recovery.pdf>.
- ³⁷ 42 U.S.C.A. § 1791 (e) (West 2015).
- ³⁸ U.S. Food and Drug Administration, *Guidance for Industry: A Food Labeling Guide*, <http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm2006828.htm> (last visited Dec. 6, 2015).
- ³⁹ Food Waste Reduction Alliance, *Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, and Restaurants*, 13 (2014), http://www.foodwastealliance.org/wp-content/uploads/2014/11/FWRA_BSR_Tier3_FINAL.pdf.
- ⁴⁰ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 33 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ⁴¹ About the Conference, Conference for Food Protection, <http://www.foodprotect.org/about/> (last visited Apr. 26, 2016).
- ⁴² FDA Food Code, U.S. Dep’t of Health & Human Servs., Food & Drug Admin., <http://www.fda.gov/downloads/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/UCM374510.pdf> (last visited Apr. 28, 2016).
- ⁴³ Food Recovery Committee, Conference for Food Protection, *Comprehensive Guidelines for Food Recovery Programs* 6 (2000), <http://www.foodprotect.org/media/guide/food-recovery-final2007.pdf>.
- ⁴⁴ Food Recovery Committee, Conference for Food Protection, *Comprehensive Guidelines for Food Recovery Programs* 6 (2000), <http://www.foodprotect.org/media/guide/food-recovery-final2007.pdf>.
- ⁴⁵ U.S. Dep’t Health & Human Services, Food and Drug Administration, *Food Code* app. 2 at 321–22 (2013), <http://www.fda.gov/downloads/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/UCM374510.pdf>.
- ⁴⁶ As of 2012, all 50 states had adopted retail codes modeled after versions of the Food Code. The Food Code is intended as a model for government agencies at all levels that regulate restaurants, grocery stores, and other food service operations. See U.S. Dep’t Health & Human Services, Food and Drug Administration, *Introduction to the 2013 Food Code* (2013), <http://www.fda.gov/downloads/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/UCM374510.pdf>.
- ⁴⁷ Committee Final Report, Conference for Food Protection 1 (Jan. 29, 2016), http://www.foodprotect.org/issues/packets/2016Packet/attachments/I_011_content_a.pdf.
- ⁴⁸ *Real Progress in Food Code Adoption*, U.S. Food & Drug Administration 1 (Feb. 22, 2016).
- ⁴⁹ See, e.g., FAQs, Daily Table, <http://dailytable.org/faqs/> (last visited Jan. 19, 2016); Lorena Galliot, *This New Startup Wants to Sell You Ugly Fruit and Veggies*, Grist (May 8, 2015), <http://grist.org/food/this-new-startup-wants-to-sell-you-ugly-fruit-and-veggies/>.
- ⁵⁰ Serri Graslie, *Social Supermarkets A 'Win-Win-Win' For Europe's Poor*, NPR (Dec. 13, 2013); Rebecca Smithers, *UK's first 'social supermarket' opens to help fight food poverty*, The Guardian (Dec. 8, 2013).

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- ⁵¹ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 33 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ⁵² 42 U.S.C.A. § 1791 (b)(3) (West 2016).
- ⁵³ Mass. Gen. Laws ANN. 94 § 328 (West 2016).
- ⁵⁴ Or. Rev. Stat. Ann. § 30.890 (West 2016).
- ⁵⁵ 42 U.S.C.A. § 1791 (c)(1) (West 2015).
- ⁵⁶ I.R.C. § 170(e)(3)(A)(ii)(2016).
- ⁵⁷ Feeding America, *Food Banks: Hunger's New Staple: Preliminary Findings* 3 (2011), <http://feedingamerica.org/hunger-in-america/hunger-studies/~media/hunger-new-staple-exec-summ.ashx?.pdf>.
- ⁵⁸ *\$5 Billion Cut To Food Stamp Program Will Strain Food Banks: Feeding America Braces for a Significant Increase in Need*, Feeding Am. (Oct. 25, 2013), <http://www.feedingamerica.org/hunger-in-america/news-and-updates/press-room/press-releases/5-billion-cut-to-food-stamp-program-will-strain-food-banks.html>.
- ⁵⁹ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 33 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf
- ⁶⁰ Dana Gunders, Nat. Res. Def. Council, *Wasted: How America Is Losing Up to 40% of Its Food from Farm to Fork to Landfill* 8 (2012).
- ⁶¹ See, e.g., Community Solutions Act of 2001: Hearing on H.R. 7 Before the Subcomm. on Human Res. & the Subcomm. on Select Revenue Measures of the H. Comm. on Ways and Means, 107th Cong. 98, 100-01 (2001) (statement of Bill Reighard, President, Food Donation Connection).
- ⁶² See, e.g., 2012 *Cost Estimates of Establishing, Producing, and Packing Red Delicious Apples in Washington*, Wash. State Univ. Extension 3 (2012), <http://cru.cahe.wsu.edu/CEPublications/FS099E/FS099E.pdf> (noting that when a 25 acre orchard was in full production, it paid on average \$12,000 annually for packing costs).
- ⁶³ Telephone Interview with Lauren Palumbo, Chief Operating Officer, Lovin' Spoonfuls (Nov. 15, 2015) (noting that the costs of trucks, repairs and maintenance, gas, and the driver's salary cost this food recovery organization .33 a pound and Lovin' Spoonfuls recovers on average 30,000 pounds of food each week).
- ⁶⁴ See, e.g., Stacey H. Van Zuiden, *The Good Food Fight for Good Samaritans: The History of Alleviating Liability and Equalizing Tax Incentives for Food Donors*, 17 Drake J. Agric. L. 237, 250 (2012).
- ⁶⁵ I.R.C. § 170(e)(3)(B) (2015).
- ⁶⁶ H.R. 2029, 114th Cong. § 113(a) (2015) (to be codified at I.R.C. § 170(e)(3)(C)); Tax Reform Act of 1976, Pub. L. No. 94-455, § 2135, 90 Stat. 1525, 1928-29, (1976) (codified as amended at I.R.C. § 170(e)(3)).
- ⁶⁷ H.R. 2029, 114th Cong. § 113 (2015) (to be codified at I.R.C. § 170(e)(3)(C)).
- ⁶⁸ Robert Hoppe, *Profit Margin Increases with Farm Size*, (Feb. 2, 2015), U.S. Dep't of Ag. Econ. Research Serv., <http://www.ers.usda.gov/amber-waves/2015-januaryfebruary/profit-margin-increases-with-farm-size.aspx#.VpU3B5MrLVo>.
- ⁶⁹ Robert Hoppe, *Profit Margin Increases with Farm Size*, (Feb. 2, 2015), U.S. Dep't of Ag. Econ. Research Serv., <http://www.ers.usda.gov/amber-waves/2015-januaryfebruary/profit-margin-increases-with-farm-size.aspx#.VpU3B5MrLVo>.
- ⁷⁰ Robert Hoppe, *Profit Margin Increases with Farm Size*, (Feb. 2, 2015), U.S. Dep't of Ag. Econ. Research Serv., <http://www.ers.usda.gov/amber-waves/2015-januaryfebruary/profit-margin-increases-with-farm-size.aspx#.VpU3B5MrLVo>.
- ⁷¹ Robert Hoppe, *Profit Margin Increases with Farm Size*, (Feb. 2, 2015), U.S. Dep't of Ag. Econ. Research Serv., <http://www.ers.usda.gov/amber-waves/2015-januaryfebruary/profit-margin-increases-with-farm-size.aspx#.VpU3B5MrLVo>.
- ⁷² Community Solutions Act of 2001: Hearing on H.R. 7 Before the Subcomm. on Human Res. & the Subcomm. on Select Revenue Measures of the H. Comm. on Ways and Means, 107th Cong. 98, 100-01 (2001) (statement of Bill Reighard, President, Food Donation Connection) (testifying businesses are losing money due to the costs associated with properly saving excess food); see also 42 U.S.C. § 1791 (2015) (requiring that donated food must meet all applicable state and local food quality and labeling standards in addition to federal requirements); I.R.C. § 170(e)(1) (2015); Charitable Contributions: For Use in Preparing 2014 Tax Returns, I.R.S., Dep't of Treasury (Jan. 13, 2015), <http://www.irs.gov/pub/irs-pdf/p526.pdf>.
- ⁷³ Cal. Rev. & Tax. Code § 17053.12 (2015), http://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=RTC§ionNum=17053.12.
- ⁷⁴ ReFED, *A Roadmap to Reduce U.S. Food Waste by 20 Percent* 10 (2016), http://www.refed.com/downloads/ReFED_Report_2016.pdf.
- ⁷⁵ Kevin D. Hall et al., *The Progressive Increase of Food Waste in America and Its Environmental Impact*, PLOS ONE 4(11):e7940, (2009), <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0007940>.
- ⁷⁶ Dana Gunders, Natural Resources Def. Council, *Wasted: How America is Losing Up to 40% of its Food From Farm to Fork to Landfill* 4 (2012).