

Consumer Perceptions of Food Date Labels

2025 National Survey

Authors

Roni Neff, PhD, Johns Hopkins Bloomberg School of Public Health, Department of Environmental Health & Engineering

Emily Broad Leib, JD, Harvard Law School Food Law and Policy Clinic

Akif Khan, JD, Harvard Law School Food Law and Policy Clinic

Dana Gunders, ReFED



Background

Each year, about a third of the United States food supply goes unsold or uneaten—valued at \$382 billion annually.¹ Households account for \$150 billion of that,² meaning consumers are wasting billions of dollars at the same time that food prices are at a record high.³ One important reason for unnecessary food waste is consumer confusion about food date labels⁴—the dates printed on foods, usually with prefixes such as “sell by,” “best before,” “expires on,” and “use by.” ReFED estimates that confusion about date labels leads U.S. consumers to throw away about three billion pounds of food,⁵ worth \$7 billion, every year.⁶

Consumers encounter a wide array of date labels on their food. Many throw away food once the date passes, because they mistakenly think the date indicates food safety rather than quality. In fact, most food remains wholesome and safe to eat long past the printed date, which typically reflects a manufacturer’s best guess of how long the product will stay at peak quality.

Contrary to the belief of many Americans, these labels are not federally regulated (other than for infant formula⁷), and state-level regulations vary widely.

In 2017, the food industry initiated a voluntary Product Code Dating Initiative, under which companies use “BEST If Used By” for quality, and “USE By” for safety (reserving the latter for the few foods where time significantly affects risk, such as deli meats and soft cheeses).⁸ This voluntary standard was meant to be implemented by 2020,⁹ and today several major food businesses use these labels on their products. Nonetheless, consumers cannot be certain of what a date label signifies, because other date label phrases still remain ubiquitous on retail shelves.

ReFED identifies standardizing date labels as one of the most cost-effective solutions for reducing food waste. Standardizing these labels would divert at least 425,000 tons of food waste from landfills annually, equivalent to 708 million meals.¹⁰

In the last decade, leaders have taken multiple approaches to reforming date labels beyond the above-noted voluntary Product Code Dating Initiative. Some states introduced or passed legislation to create standard date labels, including California, which will require standardized labels by 2026.¹¹ Federally, members of Congress introduced the Food Date Labeling Act, which would only allow two standard date label phrases on food packaging.¹² Most recently, the U.S. Food & Drug Administration and U.S. Department of Agriculture posted a request for public comments about food date labels.¹³

In response to this growing momentum, and to assess whether levels of confusion had changed, we reissued our 2016 survey about U.S. consumer perceptions of food date labels. This year's survey was fielded online by The Harris Poll via its Harris On Demand omnibus survey from January 10–14, 2025. The survey included 2,069 U.S. adults, selected to be demographically representative. Results were weighted to further improve representativeness. Our 2016 survey included 1,029 adults and was run through the CARAVAN survey by OREC International.¹⁴ Each survey firm uses its own sampling approach, and there were small wording differences for questions described here, e.g., response option "Not at all sure" in 2025 vs "I don't know" in 2016.

Take Home Messages

1

In 2025, Americans discard food near or past the label date even more often than they did in 2016.

43% always or usually discard food near or past the date on the label, up from 37% in 2016. Further, 88% do so at least occasionally, up from 84% in 2016.

2

Many mistakenly think the federal government regulates food date labels.

44% think the federal government oversees the phrases used on food date labels, increased from 36% in 2016. In fact, the only food product the federal government regulates is infant formula.

3

Consumers think they understand date labels but often misinterpret them.

An average of 87% believed they knew the meanings of eight different labels, yet when quizzed, only an average of 53% answered correctly, across all of the labels.

4

Consumers use date labels differently depending on the food item.

Date labels should guide discard decisions for foods that increase in risk after the date, such as deli meats. However, for deli meats, 40% of consumers instead said they wait for detectable changes in appearance, odor or taste before discarding. Older generations are more likely to do so than younger ones, despite their vulnerability to foodborne illness. For other foods we tested (pasteurized milk, raw chicken, bagged or boxed lettuce, and breakfast cereal), date labels generally indicate quality, not safety. However, on average, over half (54%) make overly precautionary decisions, leading to unnecessary waste.

5

Date label misinformation is common among groups that may face economic vulnerabilities.

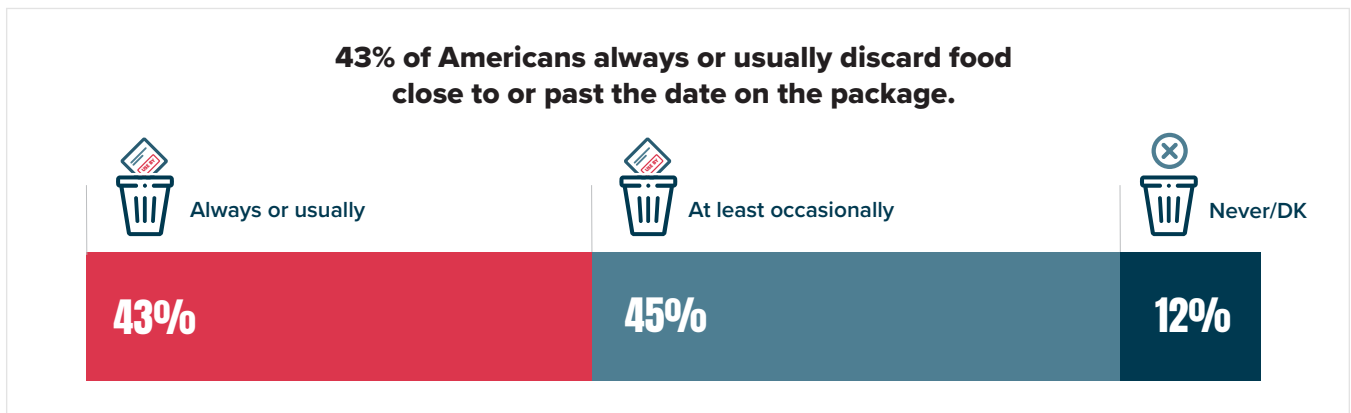
The groups most affected by date label-related confusion—including misinterpreting labels, thinking they are regulated, and discarding food unnecessarily based on dates—include young adults, parents with children under age 18, and in some cases Black and Hispanic consumers, as well as those with lower education levels.

Detailed Findings

1 In 2025, Americans discard food near or past the label date even more often than they did in 2016.

In 2025, 43% of consumers reported always or usually throwing away food close to or past the package date, an increase from 37% in 2016 (using a different survey firm). Nearly 9 in 10 did so at least occasionally (88%, up from 84%) (Figure 1). Notably, Gen Z (ages 18-28) and Millennials (29-44) were more likely to always or usually discard food close to or past label dates (52% and 51%), while Baby Boomers (ages 61-79) were least likely (32%). Parents of children under 18 were also cautious; 53% always or usually discarded food based on date labels, compared to 39% of those without young children.

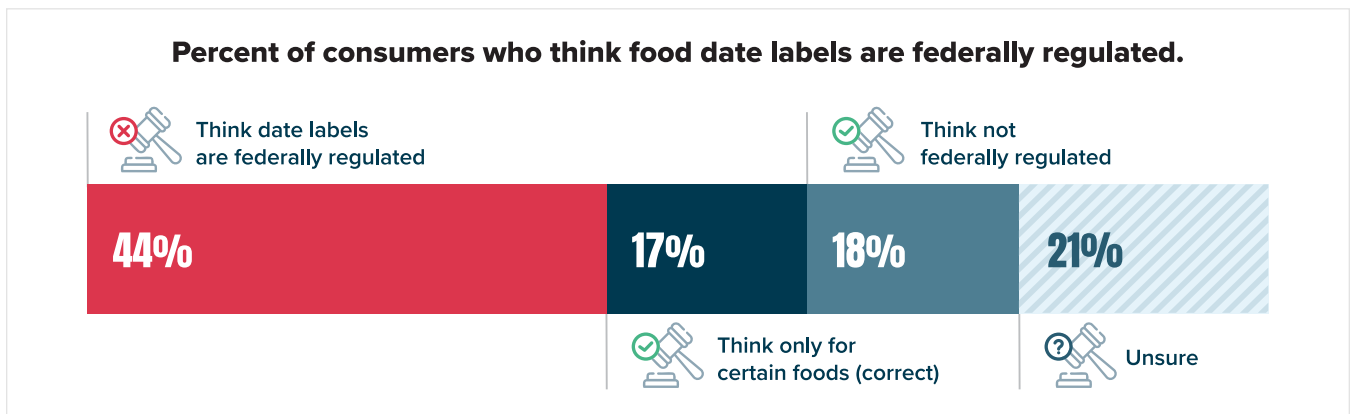
Figure 1



2 Many mistakenly think the federal government regulates food date labels.

In 2025, 44% of respondents incorrectly believed that phrases on food date labels are federally regulated (Figure 2), up from 36% in 2016. The percentage who were unsure declined from 26% to 21%. Only 17% gave the technically correct answer: the phrases are federally regulated only for specific foods, namely infant formula. (Note: In the absence of federal regulation, 41 states do regulate food date labels; however, most regulations only cover a single item, such as eggs. So even if respondents confused federal and state regulations, the correct response here would mostly be the same.¹⁵) The belief that food date labels are federally regulated was most common among those who are younger (18–34, 55%, vs. 40% for 35+), Black and Hispanic (52% and 59%, vs. White, 39%), and with children under 18 (50%, vs. 42% for others).

Figure 2



3

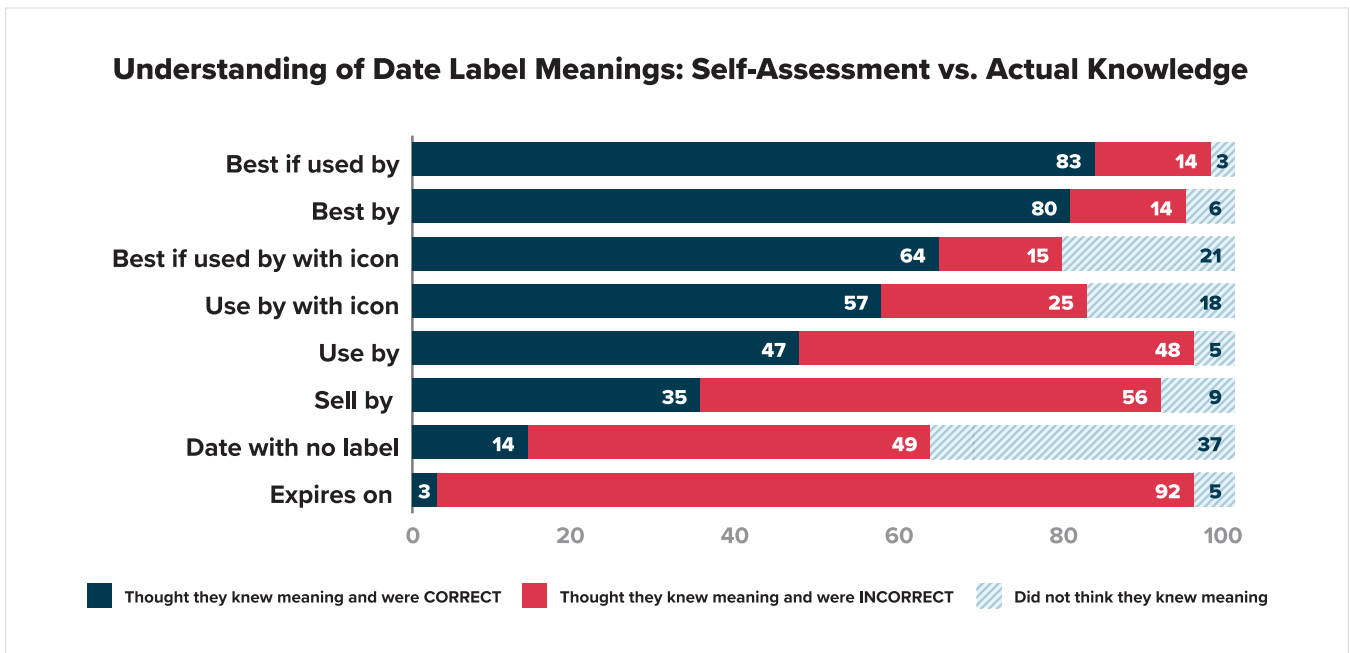
Consumers think they understand date labels but often misinterpret them.

We examined perceptions of eight date labels, including the two recommended in the voluntary industry standard, “best if used by” and “use by,” plus versions of those two labels with icons, “best by,” “sell by,” “expires on,” and a date with no text (Figure 3). An average of 87% thought they understood these labels, however, only an average of 53% gave the correct meaning (Figure 4). Across labels, an average of two in five (39%) thought they knew the answer but responded incorrectly. Misinterpretations could lead, on one hand, to foodborne illness risk, and on the other, to discarding foods unnecessarily early.

Figure 3



Figure 4



Note: Answers were rated as correct if they matched the voluntary Product Code Dating Initiative labels, e.g., “best if used by” with or without icon and “best by” = quality; “use by” with or without icon = safety; all other labels = “something else.” We also accepted “something else” for “best if used by” and “use by,” since there is no mandatory standard.

Quality Labels

Of the eight labels, consumers most often recognized “best if used by” as a quality label (79%, up from 70% in 2016), followed closely by “best by” (78%). We deemed these responses as “correct.” Since there is no mandatory standard, we also accepted “something else” as correct (6% for each of the two labels). Both labels were relatively unlikely to be misinterpreted as food safety labels (both 14%). However, misunderstanding remained: while 83% of respondents believed they knew the meaning of “best if used by” and were correct, 14% believed they knew the meaning but were incorrect.¹⁶

Adding an icon encouraging users to “look, smell, taste” to the quality date—which has been tested in other countries in hopes of increasing understanding—reduced correct understanding of “best if used by” to 65% as a quality label and reduced consumer confidence that they understood the meaning. While text-image pairings can support comprehension, they may require consumer education to be effective.

Safety Labels

Despite its use as a safety label in the voluntary Product Code Dating Initiative, “use by” produced considerable confusion. Only 44% understood it as a safety label, while 49% incorrectly thought it was a quality indicator—which could lead to unsafe practices if the label is widely adopted without education. Additionally, 95% of consumers thought they knew the label meaning even while many were actually incorrect. Adding a “stop” hand icon to “use by” increased the perception that it was a safety label to 61%, but fewer said they understood the meaning (82%, compared to 95% without the icon). The label most frequently seen as connoting safety was “expires on” (66%), though that label has no adopted meaning under any law or the voluntary initiative, meaning those treating it as a safety label are likely wasting food.

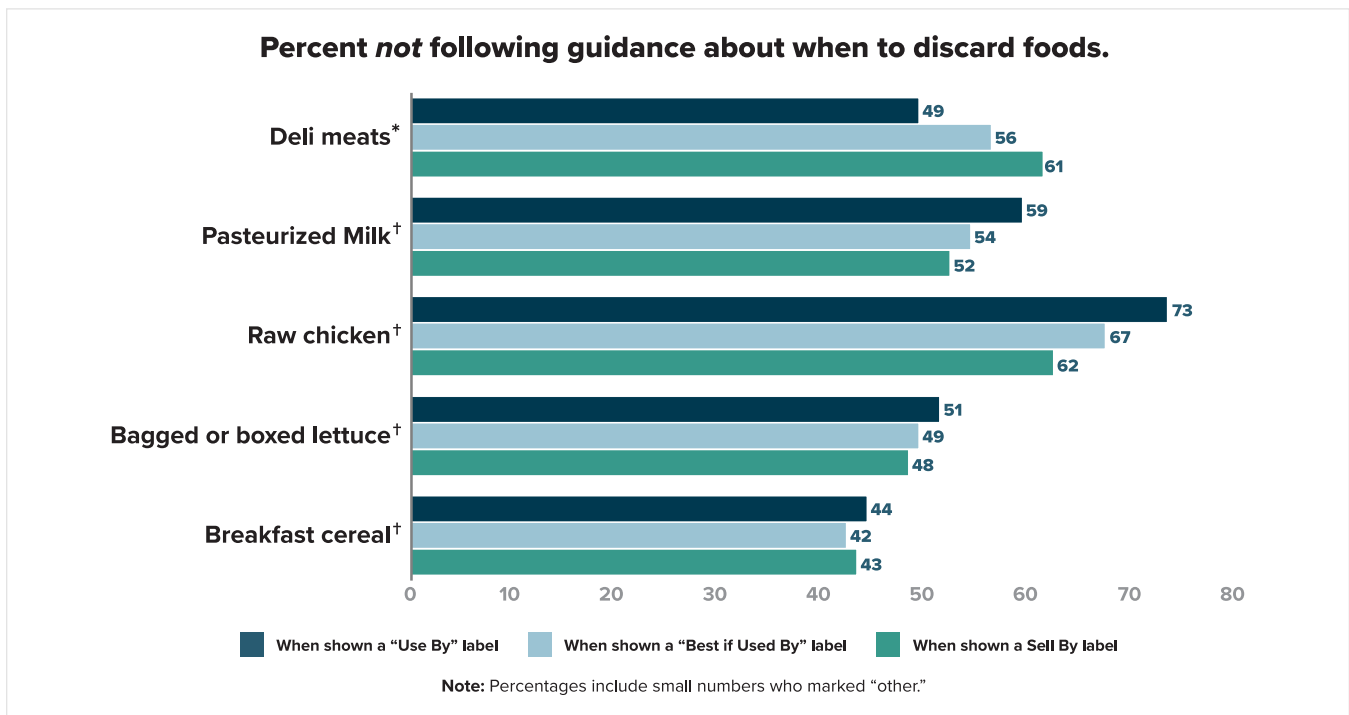
Demographic Differences

Respondents aged 18–54 and parents of children under age 18 were more likely to describe most labels as safety indicators compared to those who were older and non-parents. While the specifics varied by label, groups often saying they did not know label meanings included young adults (18-34) versus different age groups, those in the lowest income group versus upper income tiers, those with a high school education versus others, and Hispanic respondents versus Whites.

4 Consumers use date labels differently depending on the food item, and misinformed choices lead to food safety risk and waste.

Consumer discard decisions vary by product type. Consumers generally take greater precautions for “use by” labels than for “best if used by” or “sell by” across different foods (Figure 5). Below, we summarize when consumers would throw out the following foods based on different date labels: deli meats, pasteurized milk, raw chicken, bagged or boxed lettuce, and breakfast cereal.

Figure 5



*Guidance: Discard deli meat on or after the label date.

†Guidance: Discard these foods when they look, smell or taste “off.”

When Caution is Needed

Deli meats should be discarded based strictly on the date label, for food safety reasons.¹⁷ Despite the inconsistencies in label usage, the provided date is consumers' best available decision guide. However, only 65% of consumers said they would throw out deli meats before, on or just after [henceforth: based on] a "use by" label, dropping to 57% for a "best if used by" label, and 52% for "sell by." Older adults (65+) were more likely than those ages 18-54 to rely on sensory information instead of date labels, despite having greater vulnerability to foodborne illness.

When Caution Leads to Waste

For most foods, consumers can detect signs of decay before they become unsafe. Therefore, consumers should make most discard decisions based on sensory cues that indicate spoilage (looking, smelling, or tasting when appropriate) rather than date labels. We asked consumers how they would decide when to discard four very different foods that do not require date-based discards: raw chicken (because cooking will kill harmful bacteria), pasteurized milk (because pasteurization has already killed harmful bacteria), lettuce (because foodborne illness risks in lettuce do not increase under refrigeration), and breakfast cereal (which is shelf-stable). Yet, averaging estimates across the "use by," "best if used by," and "sell by" labels, 54% would discard these four foods based on the dates (chicken: 67%, milk: 55%, lettuce: 49%, cereal: 43%), contributing to billions of pounds of unnecessary waste and financial costs for households.

- **Raw Chicken:** Of the studied foods (including deli meat), consumers took the most cautious approach to raw chicken. 58% would discard raw chicken based on presence of a "sell by" label, rising to 65% for "best if used by" and 71% for "use by."
- **Pasteurized Milk:** 49% would discard milk based on presence of a "sell by" label, 53% based on a "best if used by" date label, and 58% based on a "use by" label.
- **Bagged or Boxed Lettuce:** 45% would discard lettuce based on presence of a "sell by" label, 48% would rely on a "best if used by" date for discarding, and 50% would do so based on "use by."
- **Breakfast Cereal:** Though highly shelf-stable, 38% would discard breakfast cereal based on presence of a "sell by" date, 36% based on a "best if used by" date, and 37% based on a "use by" date.

Additionally, while no food needs to be discarded before the date on the label, 9–13% of respondents said they would do so for the five foods if they had "sell by" labels, 8–14% for "best if used by" labels, and 7–16% for "use by" labels. Groups that more often reported discarding food before the date included consumers aged 18–44 compared to the oldest age groups, those with incomes under \$50,000 compared to those with the highest incomes, those with a high school education or less compared to the most educated, Hispanic and Black respondents compared to Whites, and parents of children under 18 compared to others.

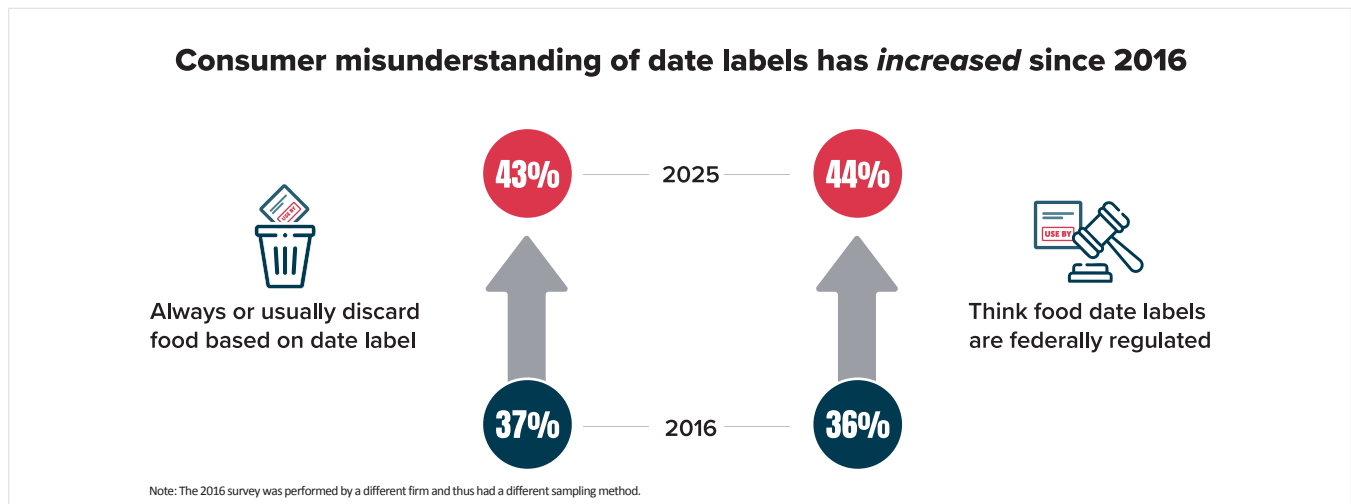
5

Date label misinformation is common among groups that may face economic vulnerabilities.

Across the analyses in this survey, young adults and parents with children under 18 were more frequently found to have misinformation about food date labels and to report unnecessary label-based food discard decisions, compared to older adults and households without children. Other demographic groups that had elevated misinformation or unnecessary food discards based on date labels in some analyses include Hispanic and Black consumers compared to Whites, and those in the lowest income and education groups compared to those in some higher income and education groups.

By "generation," Gen Z and Millennials more often discard food based on date labels, think date labels are federally regulated, and view date labels as safety indicators. Baby Boomers and Gen X more often relied on sensory cues for nearly all foods compared to Gen X and Millennials, which sometimes reduced waste and sometimes increased their food safety risks.

Figure 6



Conclusions

This national consumer survey gathered updated information about how consumers perceive food date labels, to provide accurate insights in a time of growing policy attention to this issue. The survey revealed widespread reliance on food date labels for decision-making, belief that the labels are federally regulated, and misinterpretation of what labels mean—all of which increased since our 2016 survey (which, as noted, was performed by a different firm). While some consumers feel confused, many believe they understand the meanings of food date labels. Unfortunately, nearly 40% of those who thought they knew the meanings of eight different food date labels were mistaken. We had expected that icons would improve label comprehension, however, in this survey the added “look-smell-taste” icon actually decreased comprehension compared to the “best if used by” text alone, while the added “stop” hand icon led to a small improvement in understanding over just the “use by” text. That said, these icons were unfamiliar, and no explanation was provided alongside them; further tests should explore whether accompanying education may improve the benefits.

Label misinterpretations were more common among young adults and parents with children, and in many cases also vary by socioeconomic status and race/ethnicity. As a result of label confusion, even in this time of economic pressures, U.S. households are discarding considerable amounts of food unnecessarily. Further, although most food can be donated and enjoyed well past the date on its label, belief that such food is unsafe or unpalatable can either prevent donations or create safety concerns or dignity issues for potential recipients. Meanwhile, older adults and others misconstrue labels that should deter them from eating unsafe food.

In sum, the food industry’s voluntary Product Code Dating Initiative, despite being a valuable start, apparently has not on its own improved how people use or interpret date labels. This study points to two urgent priorities: a federally regulated system of consistent food date labels people can trust, and consumer education that can break through people’s belief that they already understand the labels and teach them what the labels actually mean. This education should be tailored to the concerns and interests of different groups. Additionally, further research should explore why consumer understanding of food date labels has been moving in the wrong direction—contributing to persistently high, and even increasing, levels of food waste—though nearly a decade has passed since the U.S. set its goal of halving food waste by 2030.

Acknowledgments

Roni Neff led survey updates, data collection, data analyses, and writing. Emily Broad Leib oversaw the project, contributed to survey updates and writing, and provided review. Akif Khan contributed to writing and provided input and review. Dana Gunders provided input and review. Initial data analyses were provided by The Harris Poll. Visual design and layout by Giada Creative. This project was funded by ReFED.

This survey was conducted online within the United States by The Harris Poll on behalf of Johns Hopkins School of Public Health from January 10-14, 2025, among 2,069 adults ages 18 and older. The sampling precision of Harris online polls is measured by using a Bayesian credible interval. For this study, the sample data is accurate to within +/- 2.5 percentage points using a 95% confidence level.

References

- ¹ *Food Waste: The Problem*, REFED, https://refed.org/food-waste/the-problem/#what_is_food_waste.
- ² *Id.*
- ³ See *Consumer Price Index – January 2025*, BUREAU OF LABOR STATISTICS 3 (Feb. 12, 2025, 8:30 AM), <https://www.bls.gov/news.release/pdf/cpi.pdf>; Christopher Rugaber, *US inflation got worse with rising prices on groceries and gasoline*, ASSOCIATED PRESS NEWS (Feb. 12, 2025, 2:43 PM), <https://apnews.com/article/inflation-economy-federal-reserve-48e77a855078b37bf3ccd58c9db94c82>; see also *A Policy Win-Win? Three Opportunities to Address High Food Prices and Reduce Waste*, REFED, <https://refed.org/articles/a-policy-win-win-three-opportunities-to-address-high-food-prices-and-reduce-waste/>.
- ⁴ Emily Broad Leib et al., *Date Labels: The Case for Federal Regulation*, HARVARD L. SCH. FOOD LAW & POLICY CLINIC 1-2 (2019), https://chlp.org/wp-content/uploads/2013/12/date-labels-issue-brief_June-2019.pdf; Emily Broad Leib with Dana Gunders et al., *The Dating Game: How Confusing Date Labels Lead to Food Waste in America*, HARVARD L. SCH. FOOD LAW & POLICY CLINIC & NAT. RES. DEF. COUNCIL 5 (2013), <https://www.nrdc.org/sites/default/files/dating-game-report.pdf>; *Food Waste Monitor*, REFED INSIGHTS ENGINE, https://insights-engine.refed.org/food-waste-monitor?break_by=cause&indicator=tons-surplus&view=detail&year=2023 (displaying surplus tons of food generated by all sectors across all states in 2023 according to the cause of surplus).
- ⁵ *Food Waste Monitor*, REFED INSIGHTS ENGINE, https://insights-engine.refed.org/food-waste-monitor?break_by=cause&indicator=tons-surplus§or=residential&view=detail&year=2023 (displaying surplus tons of food generated in the residential sector across all states in 2023 according to the cause of surplus).
- ⁶ *Food Waste Monitor*, REFED INSIGHTS ENGINE, https://insights-engine.refed.org/food-waste-monitor?break_by=cause&indicator=us-dollars-surplus§or=residential&view=detail&year=2023 (displaying the dollar value of surplus food generated in the residential sector across all states in 2023 according to the cause of surplus).
- ⁷ Infant Formula Act of 1980, 21 U.S.C. § 350a; 21 C.F.R. § 107.20 (2025).
- ⁸ *FMI – GMA Product Code Dating Initiative*, GROCERY MANUFACTURERS ASSOCIATION & FOOD MARKETING INSTITUTE (Feb. 2017), https://www.fmi.org/docs/default-source/Industry-Topics-Doc/fact-sheet-product-code-dating-initiative.pdf?sfvrsn=59de6c6e_2; *Best if Clearly Labeled: How the Consumer Packaged Goods Industry is Reducing Confusion and Food Waste*, CONSUMER BRANDS ASSOCIATION 3 (2019), https://consumerbrandsassociation.org/wp-content/uploads/2019/11/ConsumerBrands_ClearlyLabeled.pdf.
- ⁹ CONSUMER BRANDS ASSOCIATION, *supra* note 8, at 4.
- ¹⁰ *Solutions Database: Standardized Date Labels*, REFED INSIGHTS ENGINE, <https://insights-engine.refed.org/solution-database/standardized-date-labels>. The conversion from tons of food to meals recovered was calculated using ReFED’s estimation calculator. *Meals Recovered*, REFED INSIGHTS ENGINE DOCUMENTATION, https://docs.refed.org/methodologies/impact_calculator/meals_recovered.html.
- ¹¹ Cal. Assemb. B. 660, 2023-2024 Leg., Reg. Sess. (Cal. 2024) (enacted).
- ¹² Food Date Labeling Act of 2023, S. 1484, 118th Cong. (2023); Food Date Labeling Act of 2023, H.R. 3159, 118th Cong. (2023); see also Food Date Labeling Act of 2021, S. 3324, 117th Cong. (2021); Food Date Labeling Act of 2021, H.R. 6167, 117th Cong. (2021); Food Date Labeling Act of 2019, S. 2337, 116th Cong. (2019); Food Date Labeling Act of 2019, H.R. 3981, 116th Cong. (2019); Food Date Labeling Act of 2016, S. 2947, 114th Cong. (2016); Food Date Labeling Act of 2016, H.R. 5298, 114th Cong. (2016).
- ¹³ Food Date Labeling, 89 Fed. Reg. 96205 (Dec. 4, 2024).
- ¹⁴ Roni Neff et al., *Misunderstood food date labels and reported food discards: A survey of U.S. consumer attitudes and behaviors*, 86 WASTE MGMT. 123 (2019) (available at: <https://doi.org/10.1016/j.wasman.2019.01.023>); see Emily Broad Leib et al., *Consumer Perceptions of Date Labels: National Survey* (2016), https://chlp.org/wp-content/uploads/2013/12/Consumer-Perceptions-on-Date-Labels_May-2016.pdf for the 2016 policy brief by researchers from Harvard L. Sch. Food L. & Pol’y Clin., Nat’l Consumers League, and Johns Hopkins Ctr. for a Livable Future.
- ¹⁵ *The Dating Game*, *supra* note 4, at 12; see also *The Case for Federal Regulation*, *supra* note 4, at 3 (expanding on the findings of *The Dating Game*, *supra* note 4, to explain the necessity of federal date label standardization); *U.S. Food Waste Policy Finder*, REFED, <https://policyfinder.refed.org/?category=prevention&key=date-labeling> (displaying ‘Date Labeling’ policies by state).
- ¹⁶ Note: This 14% is slightly different from the above-mentioned 14% who saw “Best if used by” as a safety label. Here, we are including the portion of that 14% incorrect who thought they were correct, and also those who were unsure.
- ¹⁷ CTR. FOR FOOD SAFETY AND APPLIED NUTRITION & FOOD SAFETY AND INSPECT. SERV., QUANTITATIVE ASSESSMENT OF RELATIVE RISK TO PUBLIC HEALTH FROM FOODBORNE *LISTERIA MONOCYTOGENES* AMONG SELECTED CATEGORIES OF READY-TO-EAT FOODS (2003), <https://www.fda.gov/media/124721/download?attachment> [<https://perma.cc/8J3T-GB63>].