



# **FOOD WASTE PREVENTION RESOURCE GUIDE SERIES: DATE LABELS**



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Up to **40% of the food supply** is wasted in the United States. Reducing this staggering number and meeting **national goals** to reduce food waste requires consumers to make meaningful changes to how they buy, store, prepare, and consume food. Yet, food waste remains off the radar for many consumers. According to a **2019 study**, one in five people never consider food waste in their decision-making while eating at home or grocery shopping. More than two-thirds of people never consider food waste while eating out. Providing effective education is a proven strategy to help address this lack of awareness. Consumer education **has the potential** to divert an additional 3.22 million tons of wasted food, prevent 18.7 million metric tons of CO<sub>2</sub> emissions, and provide a financial net benefit of \$15.8 billion.

Increased consumer attention to the issue may also push businesses to operate more responsibly. **The Nashville Food Waste Initiative** (NFWI) aims to provide food waste education to everyone in Nashville, from business owners and staff to educators to students. Originally developed in 2015 as a pilot project by NRDC, NFWI is now led by **Urban Green Lab** (UGL) in partnership with the **Environmental Law Institute** (ELI). UGL offers trainings that include information on how to reduce food waste in classrooms, households, and workplaces.

ELI and UGL collaborated to create the Food Waste Prevention Resource Guide Series to help expand food waste content in UGL trainings and provide ready-to-use resources for other sustainability non-profits or similar organizations creating their own trainings or curriculums.

The Resource Guide Series highlights five **proven** food waste prevention strategies: packaging design and use, date labels, meal prepping and kits, storage and freezing, and plate and portion size. Each Resource Guide covers one of the five topics, includes key tips as well as a list of helpful resources, and is organized into three charts tailored to a different audience—classrooms, households, and workplaces. Some resources appear across multiple charts.

Organized by both resource type (columns) and topic (rows), the Resource Guide Series provides a straightforward way for sustainability educators to find vetted content for building effective, fact-based trainings.

There are no consistent federal standards for food date labels, with the exception of baby formula. This lack of standardization means some labels, such as “Best if Used by,” refer to peak freshness of food (as estimated by the manufacturer), not food safety—which can confuse consumers and cause them to throw out edible food.

NOTES: The Resource Guides provide targeted resources on specific food waste prevention strategies. More free information on food waste prevention, reduction, and recycling, including general overviews, are widely available such as from **USDA**, **NRDC**, **ReFED**, **WRAP** and **World Wildlife Fund**. Additionally, though the Resource Guides largely compile free resources from governments, NGOs, and academics, note that there are also private and/or paid resources that can provide useful information on food waste prevention (e.g., Dana Gunders’ **Waste-Free Kitchen Handbook**, **LeanPath**).



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# DATE LABELS: CLASSROOMS

There are no consistent federal standards for food date labels, with the exception of baby formula. This lack of standardization means some labels, such as “Best if Used by,” refer to peak freshness of food (as estimated by the manufacturer), not food safety— which can confuse consumers and cause them to throw out edible food.

The table below compiles free resources for teaching classrooms about sustainable choices to reduce food waste through interpreting date labels.



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# KEY TAKEAWAYS FOR DATE LABELS IN CLASSROOMS

## When teaching about date labels, educators should be able to:

- ▶ Explain that food waste contributes to climate change through unnecessary use of energy and resources, as well as emissions generated during landfill decay.
- ▶ Explain how lack of date label standardization and confusion around date label interpretation can lead to food waste.
- ▶ Articulate why date labels can be confusing and clarify date label terminology.
- ▶ Share how students can tell if food is spoiled and no longer safe to eat by using their senses, including looking for changes in appearance, smell and texture (e.g., moldy bread or lumpy milk).
- ▶ Educate students about how they can engage with elected officials and other community members to encourage sustainable practices such as reducing food waste.
- ▶ Help students understand the impacts of their own actions and how they can discuss and help implement sustainable practices at home.

“Training educators to bring a sustainable lens to the classroom is crucial for culture change in a community. If we want to push the dial for sustainability in a meaningful way, we need to ensure educators have the confidence and tools to deepen the standards they are already teaching while connecting to the real world outside of the classroom.”

- CHRISTINA LANGONE, DIRECTOR OF EDUCATION, URBAN GREEN LAB



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Key Resources on Food Waste

Lesson Plans & Classroom Activities

WWF, [\*Be a Food Waste Warrior\*](#) (n.d.): K-12 lessons, activities, and resources that educators can use to teach about the environmental impacts of food waste—organized by age group.

Toolkits & Similar Resources

U.S. EPA, [\*Too Good to Waste Implementation Guide and Toolkit\*](#) (n.d.): Comprehensive toolkit that provides strategies and resources for consumers and educators to engage in food waste reduction activities.

ReFED, [\*Resources & Guides\*](#) (n.d.): Compilation of online food waste tools that includes a food waste monitor, solutions database, impact calculator, and policy finder.

Reports & Articles

NRDC, [\*Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill\*](#) (2017): Seminal report on food waste that includes a thorough description of the problem, recent progress, and emerging solutions.

Rubicon, [\*Food Waste in America: Facts and Statistics\*](#) (2023): Primer on food waste in America that includes statistics and recommendations.

Bloomberg, [\*The US Has a Food Waste Problem and It's Getting Worse\*](#) (2023): Article that provides an overview of food waste trends and key numbers.

Creative Media

Our Changing Climate, [\*Food Waste Causes Climate Change. Here's How We Stop it.\*](#) (2020): Video that provides key food waste statistics and possible avenues for change.

### Toolkits & Similar Resources

USDA, [\*Food Product Dating\*](#) (n.d.): Guide that provides an explanation of food product dating.

### Reports & Articles

Dana Gunders, Business Insider, [\*How to Tell if Food Is Actually Safe to Eat \(Excerpted from "Waste-free Kitchen Handbook"\)\*](#) (2015): Article that explains common indications of food aging and spoilage.

NRDC, [\*The Dating Game: How Confusing Food Date Labels Lead to Food Waste in America\*](#) (2013): Policy brief that examines the historical impetus for placing dates on food, relevant federal law, and connection to food waste.

Shaheen Hosany, The Conversation, [\*How Children are Helping to Make Their Families More Eco-Friendly - New Research\*](#) (2022): Article that explains how sustainability education at school leads children to develop and implement sustainable practices at home.

### Creative Media

Harvard Law School Food Law and Policy Clinic, [\*EXPIRED? Food Waste in America\*](#) (2016): Film and corresponding discussion guide that reveals the consequences of patchwork date labeling regulations.

ABC News, [\*New Plan to Change Food Labels\*](#) (2023): Video that explains the case for standardized food date labeling.



All Ages

### Lesson Plans & Classroom Activities

WWF, [\*The No Food Waste Game\*](#) (2020): Educational game for students that challenges players to think of different ways to prevent food waste generally.

### Toolkits & Similar Resources

USDA, [\*FoodKeeper\*](#) (n.d.): Guide that lists by when foods should be consumed.

### Reports & Articles

The Scholarship System, [\*5 Ways Students Can Get Involved in Politics \(And Why They Should\)\*](#) (2023): Blog that explores ways students can be politically active and engage with elected officials and community members.



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	Lesson Plans & Classroom Activities	Reports & Articles	Creative Media
Elementary School	<p>Wonderopolis, <a href="#"><i>How Are Expiration Dates for Food Determined?</i></a> (n.d.): Article and activities that show how date labels are determined and can contribute to food waste.</p> <p>Food Standards Scotland, <a href="#"><i>It's a Date!</i></a> (n.d.): Classroom activity that educates children ages 7 to 9 about date labels and how to prevent food waste.</p>		<p>Carolyn Beans, TED-Ed, <a href="#"><i>Food Expiration Dates Don't Mean What You Think</i></a> (2023): Video that explains the history of date labeling, how date labels contribute to food waste, and potential solutions.</p>
Middle School	<p>Wonderopolis, <a href="#"><i>How Are Expiration Dates for Food Determined?</i></a> (n.d.): Article and activities that show how date labels are determined and can contribute to food waste.</p>	<p>The Scholarship System, <a href="#"><i>5 Ways Students Can Get Involved in Politics (And Why They Should)</i></a> (2023): Blog that explores ways students can be politically active and engage with elected officials and community members.</p>	<p>Carolyn Beans, TED-Ed, <a href="#"><i>Food Expiration Dates Don't Mean What You Think</i></a> (2023): Video that explains the history of date labeling, how date labels contribute to food waste, and potential solutions.</p>





## High School

### Lesson Plans & Classroom Activities

ReFED, [\*Test Your Date Label Knowledge\*](#) (n.d.): Quiz that tests knowledge on date labels.

ReFED, [\*U.S Food Waste Policy Finder\*](#) (n.d.): Map that shows date labeling policies and in-depth explanations by state.

Foodspan & John Hopkins Center for a Livable Future, [\*Our Wasted Food\*](#) (2023): 50-minute lesson plan that teaches students about food waste and potential solutions, with extension projects that will further empower students to take action.

### Reports & Articles

University of Connecticut, [\*Expiration, Use-By and Sell-By Dates: What Do They Really Mean?\*](#) (2019): Article that provides an explanation of date labeling terminology.

Chris Hunt, Food Print, [\*Are Food Date Labels a Waste of Food and Money?\*](#) (2013): Blog that explains date label regulations and recommendations for improving the system.

Xaq Frohlich, The Washington Post, [\*Mandatory Date Labels on Food Could End Confusion and Prevent Food Waste\*](#) (2023): Article that analyzes an example of federal legislation on date labels.

### Creative Media

Let's Teach, [\*How Are Expiration Dates Determined? Are They Just Suggestions?\*](#) (2021): Video that explains date labels and how to use your senses to determine if food is spoiled.

Harvard Law School Food Law and Policy Clinic, [\*EXPIRED? Food Waste in America\*](#) (2016): Film and corresponding discussion guide that reveals the consequences of patchwork date labeling regulations.

For more information: Linda Breggin, ELI Senior Attorney ([breggin@eli.org](mailto:breggin@eli.org)) and Todd Lawrence, UGL Executive Director ([todd@urbangreenlab.org](mailto:todd@urbangreenlab.org)).



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# DATE LABELS: HOUSEHOLDS

There are no consistent federal standards for food date labels, with the exception of baby formula. This lack of standardization means some labels, such as “Best if Used by,” refer to peak freshness of food (as estimated by the manufacturer), not food safety— which can confuse consumers and cause them to throw out edible food.

The table below compiles free resources for teaching households about sustainable choices to reduce food waste through interpreting date labels.



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# KEY TAKEAWAYS FOR DATE LABELS IN HOUSEHOLDS

## When teaching about date labels, educators should help households:

- ▶ Understand that food waste contributes to climate change through unnecessary use of energy and resources, as well as emissions generated during landfill decay.
- ▶ Understand how lack of date label standardization and confusion around date label interpretation can lead to food waste.
- ▶ Understand date label terminology and the current federal and state regulations on date labels.
- ▶ Learn to recognize food spoilage using senses instead of relying solely on date labels, including by looking for changes in appearance, smell and texture (e.g., moldy bread or lumpy milk).
- ▶ Be able to name foods that can commonly be kept past the date label (e.g., eggs, packaged breads).
- ▶ Evaluate the impacts of their own actions and how they can adopt more sustainable practices at home and encourage businesses, schools, and other institutions to do the same.

"Educating residents to find simple, sustainable solutions within their homes impacts the entire city. Once sustainability has been integrated into the everyday lives and actions of households, that knowledge then pours into our relationships, neighborhoods, and communities."

- KARISSA HAMPTON, SUSTAINABLE HOUSEHOLDS MANAGER, URBAN GREEN LAB



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Key Resources on Food Waste

Reports & Case Studies	Ready-to-Use Resources	Toolkits & Similar Resources	Articles
<p>NRDC, <a href="#"><i>Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill</i></a> (2017): Seminal report on food waste that includes a thorough description of the problem, recent progress, and emerging solutions.</p>	<p>ReFED, <a href="#"><i>Resources &amp; Guides</i></a> (n.d.): Compilation of online food waste tools that includes a food waste monitor, solutions database, impact calculator, and policy finder.</p>	<p>U.S. EPA, <a href="#"><i>Too Good to Waste Implementation Guide and Toolkit</i></a> (n.d.): Comprehensive toolkit that provides strategies and resources for consumers and educators to engage in food waste reduction activities.</p>	<p>Rubicon, <a href="#"><i>Food Waste in America: Facts and Statistics</i></a> (2023): Primer on food waste in America that includes statistics and recommendations.</p>
<p><b>Creative Media</b></p>			
<p>Our Changing Climate, <a href="#"><i>Food Waste Causes Climate Change. Here's How We Stop it.</i></a> (2020): Video that provides key food waste statistics and possible avenues for change.</p>			<p>Bloomberg, <a href="#"><i>The US Has a Food Waste Problem and It's Getting Worse</i></a> (2023): Article that provides an overview of food waste trends and key numbers.</p>



## Overview of Date Labels

### Reports & Case Studies

Carter Weis et al., [\*Sustainability, Effects of Date Labels and Freshness Indicators on Food Waste Patterns in the United States and the United Kingdom\*](#) (2021): Study that finds that date labels impact consumers' likelihood to waste food.

NRDC, [\*The Dating Game: How Confusing Food Date Labels Lead to Food Waste in America\*](#) (2013): Policy brief that examines the historical impetus for placing dates on food, relevant federal law, and connection to food waste.

### Toolkits & Similar Resources

USDA, [\*Food Product Dating\*](#) (n.d.): Guide that explains food product dating.

### Articles

University of Connecticut, [\*Expiration, Use-By and Sell-By Dates: What Do They Really Mean?\*](#) (2019): Article that explains date labeling terminology.

### Creative Media

Carolyn Beans, TED-Ed, [\*Food Expiration Dates Don't Mean What You Think\*](#) (2023): Video that explains the history of date labeling, how they contribute to food waste, and potential solutions.

Vox, [\*It's Not You. Date Labels on Food Make No Sense\*](#) (2018): Video that explains the confusion created by date labels and proposed solutions.

## Determination of Food Freshness & Safety

### Ready-to-Use Resources

USDA, [\*FoodKeeper\*](#) (n.d.): Guide that lists by when foods should be consumed.

Dana Gunders, Business Insider, [\*How to Tell if Food Is Actually Safe to Eat \(excerpted from “Waste-free Kitchen Handbook”\)\*](#) (2015): Article that explains common indications of food aging and spoilage.

### Articles

Kristin Salaky, [\*You Can Still Eat Food After Its Expiration Date if You Keep These Factors in Mind\*](#) (2021): Article that explains factors that help determine whether food is safe to eat.

### Creative Media

Times Foodie, [\*How to Check if the Eggs Are Fresh or Spoiled\*](#) (n.d.): Short video that demonstrates how to test whether eggs are spoiled.

Howcast, [\*How to Tell if Beef is Spoiled\*](#) (n.d.): Short video that demonstrates how to determine if beef is spoiled.



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## State & Federal Date Label Regulations

### Reports & Case Studies

NRDC, [\*The Dating Game: How Confusing Food Date Labels Lead to Food Waste in America\*](#) (2013): Policy brief that examines the historical impetus for placing dates on food, relevant federal law, and connection to food waste.

### Toolkits & Similar Resources

U.S. EPA, [\*Preventing Wasted Food in Your Community: A Social Marketing Toolkit\*](#) (2023): A toolkit that can be used by communities to develop wasted food prevention campaigns (pages 6, 8).

### Ready-to-Use Resources

ReFED, [\*Test Your Date Label Knowledge\*](#) (n.d.): Quiz that tests knowledge on date labels.

ReFED, [\*U.S Food Waste Policy Finder\*](#) (n.d.): Map that shows date labeling policies and in-depth explanations by state.

### Creative Media

Harvard Law School Food Law and Policy Clinic, [\*EXPIRED? Food Waste in America\*](#) (2016): Film and corresponding discussion guide that reveals the consequences of patchwork date labeling regulations.

ABC News, [\*New Plan to Change Food Labels\*](#) (2023): Video that explains the case for standardized food date labeling.

### Articles

NPR, [\*To Reduce Food Waste, FDA Urges 'Best If Used By' Date Labels\*](#) (2019): Article and audio that informs consumers about federal recommendations to standardize date labels.

Chris Hunt, Food Print, [\*Are Food Date Labels a Waste of Food and Money?\*](#) (2013): Blog that explains date label regulations and recommendations for improving the system.

Xaq Frohlich, The Washington Post, [\*Mandatory Date Labels on Food Could End Confusion and Prevent Food Waste\*](#) (2023): Article that analyzes an example of federal legislation on date labels.

Ian Prasad Philbrick & David Leonhardt, The New York Times, [\*How to Participate in Politics\*](#) (n.d.): Article that offers strategies for individuals to engage with elected officials and community members to enact change.

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# DATE LABELS: WORKPLACES

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The table below compiles free resources for teaching workplaces about sustainable choices to reduce food waste through interpreting date labels.



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# KEY TAKEAWAYS FOR DATE LABELS IN WORKPLACES

## When teaching about date labels, educators should help workplaces:

- ▶ Understand that food waste contributes to climate change through unnecessary use of energy and resources, as well as emissions generated during landfill decay.
- ▶ Understand how lack of date label standardization and confusion around date label interpretation can lead to food waste.
- ▶ Understand date label terminology and federal, state, and local regulations for donating food past or near the date indicated on the label.
- ▶ Look for opportunities to partner with other organizations to promote awareness and action on date label standardization.
- ▶ Understand the ability of workplaces to reduce food waste through sustainable choices and knowledge-sharing within their workforce, customer base, and business communities.

"It's a wonderful experience to distill complex scientific information into tangible actions for citizens to digest and utilize in their own way. If an attendee walks away from one of my trainings doing just one or two new sustainable activities that add value to their life, that's a huge win. Connecting people to resources in sustainability that are vetted and accurate is one of the best things we can do to empower them to make long-lasting changes."

- JACQUELINE GOODWIN, ASSISTANT DIRECTOR OF WORKPLACES, URBAN GREEN LAB



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Key Resources on Food Waste

Reports & Case Studies

NRDC, [\*Wasted: How America Is Losing Up to 40 Percent of Its Food from Farm to Fork to Landfill\*](#) (2017): Seminal report on food waste that includes a thorough description of the problem, recent progress, and emerging solutions.

Creative Media

Our Changing Climate, [\*Food Waste Causes Climate Change. Here's How We Stop it.\*](#) (2020): Video that provides key food waste statistics and possible avenues for change.

Ready-to-Use Resources

ReFED, [\*Resources & Guides\*](#) (n.d.): Compilation of online food waste tools that includes a food waste monitor, solutions database, impact calculator, and policy finder.

The Chancery Lane Project, [\*Reducing Supply Chain Food Waste\*](#) (2022): Model contractual clause that can be used by businesses to reduce food waste in their supply chains in order to reduce greenhouse gas emissions and realize financial benefits.

Toolkits & Similar Resources

U.S. EPA, [\*Too Good to Waste Implementation Guide and Toolkit\*](#) (n.d.): Comprehensive toolkit that provides strategies and resources for consumers and educators to engage in food waste reduction activities.

Articles

Rubicon, [\*Food Waste in America: Facts and Statistics\*](#) (2023): Primer on food waste in America that includes statistics and recommendations.

Bloomberg, [\*The US Has a Food Waste Problem and It's Getting Worse\*](#) (2023): Article that provides an overview of food waste trends and key numbers.





Overview of Date Labels

### Reports & Case Studies

National Consumers League, Johns Hopkins University & Harvard Food Law and Policy Clinic, [\*Consumer Perceptions of Date Labels: National Survey\*](#) (2016): Survey that explores consumer confusion around date labels.

### Articles

University of Connecticut, [\*Expiration, Use-By and Sell-By Dates: What Do They Really Mean?\*](#) (2019): Article that provides an explanation of date labeling terminology.

### Toolkits & Similar Resources

USDA, [\*Food Product Dating\*](#) (n.d.): Guide that provides an explanation of food product dating.

### Creative Media

Vox, [\*It's Not You. Date Labels on Food Make No Sense\*](#) (2018): Video that explains the confusion created by date labels and proposes solutions.

Harvard Law School Food Law and Policy Clinic, [\*EXPIRED? Food Waste in America\*](#) (2016): Film and corresponding discussion guide that reveals the consequences of patchwork date labeling regulations.

State & Federal Date Label Regulations

Reports & Case Studies

NRDC, [\*The Dating Game: How Confusing Food Date Labels Lead to Food Waste in America\*](#) (2013): Policy brief that examines the historical impetus for placing dates on food, relevant federal law, and connection to food waste.

Creative Media

ABC News, [\*New Plan to Change Food Labels\*](#) (2023): Video that explains the case for standardized food date labeling.

Ready-to-Use Resources

ReFED, [\*Test Your Date Label Knowledge\*](#) (n.d.): Quiz that tests knowledge on date labels.

ReFED, [\*U.S Food Waste Policy Finder\*](#) (n.d.): Map that shows date labeling policies and in-depth explanations by state.

Toolkits & Similar Resources

U.S. Food and Drug Administration, [\*Social Media Toolkit for Food Loss and Waste\*](#) (2022): Toolkit that includes model social media posts on food waste including those on date labels.

Articles

NPR, [\*To Reduce Food Waste, FDA Urges 'Best If Used By' Date Labels\*](#) (2019): Article and audio that informs consumers about federal recommendations to standardize date labels.

Chris Hunt, Food Print, [\*Are Food Date Labels a Waste of Food and Money?\*](#) (2013): Blog that explains date label regulations and recommendations for improving the system.

Xaq Frohlich, The Washington Post, [\*Mandatory Date Labels on Food Could End Confusion and Prevent Food Waste\*](#) (2023): Article that analyzes an example of federal legislation on date labels.

Ian Prasad Philbrick & David Leonhardt, The New York Times, [\*How to Participate in Politics\*](#) (n.d.): Article that offers strategies for individuals to engage with elected officials and community members to enact change.





Date Labels & Food Donation

**Reports & Case Studies**

Harvard Food Law and Policy Clinic & The Global Foodbanking Network, *[Promoting Food Donation: Date Labeling Law and Policy](#)* (2021): Issue brief that outlines how strong date labeling and food donation policies can help address food insecurity.

**Articles**

Leah Butz, Hunter College New York City Food Policy Center, *[“Expiration” Dates: Can You Donate Past-Date Packaged Foods?](#)* (2021): Article that explores the reasons for and against donating past-date foods.

For more information: Linda Breggin, ELI Senior Attorney ([breggin@eli.org](mailto:breggin@eli.org)) and Todd Lawrence, UGL Executive Director ([todd@urbangreenlab.org](mailto:todd@urbangreenlab.org)).



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# THANK YOU

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