



Reducing Food Waste at Home

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Introduction

Food loss is defined as the edible amount of postharvest food available for human consumption but not consumed. This includes losses from cooking, mold, pests, moisture loss, poor climate control, and food waste (U.S. Department of Agriculture [USDA], 2023). Food waste occurs when an edible item goes unconsumed because of an issue with retailers (10%) or consumers (21%), such as over-ordering or over-buying; when combined, this equates to roughly 133 billion pounds of wasted food (Buzby et al., 2014).

The average American throws out more than 400 pounds (181 kilograms) of food annually, translating to 30%–40% of the total U.S. food supply (U.S. Environmental Protection Agency [EPA], 2021). This equates to 92 billion pounds being thrown away annually in the U.S. because of damaged, spoiled, or “ugly-shaped” produce, overproduction at farms, misunderstood expiration dates, and more (Feeding America, 2018). Though losses occur at any point along the food supply chain, such as transporting or processing, the most significant share of U.S. food loss and waste occurs at the consumption stage. This stage entails any time food is provided for consumers at home, in restaurants, or in cafeterias. It accounts for “roughly one-half of total U.S. food loss and waste” (Jaglo et al., 2021). Research shows the average American household wastes 31.9% of the food it acquires. Even in the most efficient households, 8.7% of food is still wasted (Gill, 2020).

Why Does It Matter?

As food is discarded, resources such as money and water are wasted by producing food that will not be eaten and then transporting it to landfills. The monetary value equates to \$161 billion each year in the United States; households could save up to \$370 per person annually if efforts were made to reduce food waste (Buzby, et al., 2014). Water waste is approximately 5.9 trillion gallons—enough to meet the needs of 50 million American homes (Jaglo et al., 2021). Furthermore, as illustrated in Figure 1, these amounts of discarded food “contain enough calories to feed more than 150 million people” yearly (Jaglo, et al., 2021). This surpasses the needs of an estimated 44 million food-insecure Americans, including 13 million children (Feeding America, n.d.).

There are 44 million Americans facing food insecurity, yet discarded food contains enough calories to feed more than 150 million people every year.

Practical Tips and Solutions to Reduce Food Loss

There are as many solutions for reducing food loss as driving factors. Only some community members have a direct voice in food production rates, but building successful habits in residential spaces is an effective start. Planning meals and being aware of expiration dates helps households eat food before it spoils and negates the need to discard excess goods. However, if there is surplus food, inventive opportunities can reduce the amount of food headed to landfills.

Shop With a List

Only buy what you need and will eat. Households who use a shopping list and those who must travel farther to reach a grocery store have reduced food waste, showing that planning influences the amount of food wasted in homes (Gill, 2020). Additionally, grocery stores often use end-of-aisle displays and enticing promotions to encourage impulse buying. By adhering to a shopping list, one can avoid purchasing impulsively and acquiring items that may not be consumed, thereby minimizing food waste.

Check at Home First

Planning ahead also includes awareness of what is available in the household fridge and pantry. A great in-home method to reduce food waste is “first in first out” (FIFO). This food management method reminds consumers to use foods that have been stored the longest (the “first in” items) before eating or purchasing more foods. Free apps like [Foodkeeper](#), [Cooklist](#), and [CozZo](#) provide tools to shop with at-home inventories in mind.

Store Leftovers Safely

After a meal, store leftovers in a tightly sealed container and place them in the refrigerator at an accessible location to remind household members what is available. It is also important to remember when meals were made and eat food before it spoils. Some consumers mark the dates on food containers with tape labels to help them use their leftovers in a timely manner to reduce food waste. In general, cooked leftovers are good in the fridge for 3 to 4 days, and raw meats should be used within 1 to 5 days. See the [Cold Food Storage Chart](#) from FoodSafety.gov to learn cold food storage guidelines.

Revitalize Leftovers

Sometimes, leftover food from meals is not as appetizing as making something fresh. However, food from past meals can be rejuvenated by adding different seasonings or additional ingredients or using a new cooking method.

- **Think creatively:** Add leftovers to another meal, such as grilled chicken for a salad, green beans or peas for a stir fry, or rice for a simple chicken soup. Reheating leftovers in a pan can maintain quality texture and fresher taste.

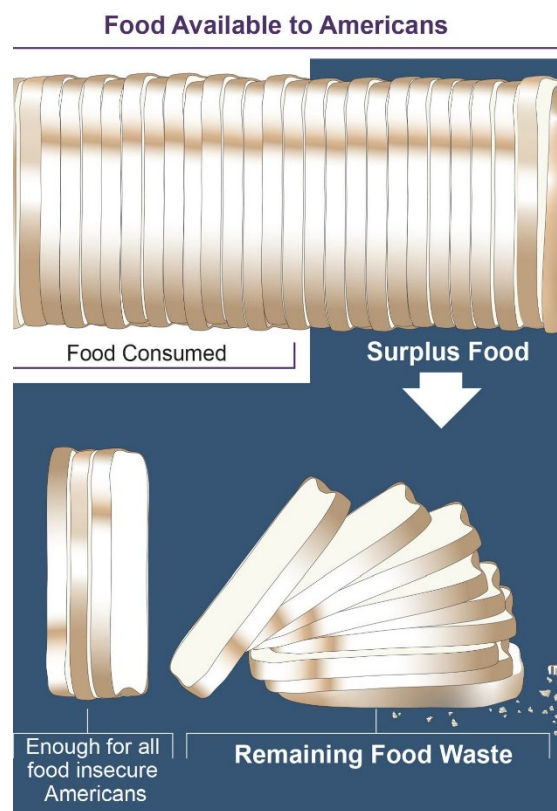


Figure 1. Illustration of How American Food Waste Could Feed Those in Need

Source: Jaglo et al., 2021

- **Cook once, eat twice:** This technique aligns meals, so you use leftover ingredients for the next day's dinner (Durward & Adair, n.d.). This method reduces waste, makes shopping easier (with fewer ingredients), and saves time. For more information, see [Food Waste Prevention Part 4: Using Leftovers](#) on the Utah State University (USU) Extension Nutrition website.



Understand Expiration Dates

"Confusion over date labeling accounts for an estimated 20% of consumer food waste" (Food and Drug Administration [FDA], 2019). These dates are provided to assist consumers and retailers in determining when the food is at its peak quality. However, it's important to note that food does not "expire" in the sense of becoming unsafe immediately after the date. If handled properly, most products remain safe to eat until spoilage is evident, when you should discard them (Food Safety and Inspection Service, 2023). The following explains the various date-label phrases (Food Safety and Inspection Service, 2023):

- **Best if used by/before** dates indicate when a product will be at its best flavor or quality. These dates are not related to food safety and are not mandatory.
- **Use-by** dates represent the last day the product is expected to be at its peak quality. Except for infant formula, these dates are not required for food safety.
- **Sell-by** dates are used by retailers to determine how long a product should be displayed for sale. These dates are optional and do not relate to food safety.
- **Freeze-by** dates suggest when a product should be frozen to maintain its best quality. Like other date labels, these are not required for food safety.

It's important to note that, except for the use-by dates on infant formula, federal law does not mandate that manufacturers place date labels on packaged food, nor are these dates indicators of food safety (U.S. Food & Drug Administration [FDA], 2019). However, do not consume a product showing noticeable spoilage signs, regardless of the date label.

In some cases, use-by dates do provide general safety guidelines—specifically for refrigerated products such as low-acid dips (e.g., guacamole, hummus, baba ghanoush) and lunch meats (Salazar et al., 2020). These items are assigned a short shelf life based on the potential for the growth of *L. monocytogenes*, a harmful bacterium (the FDA

Food Code recommends a maximum of 7 days). For these specific products, consuming food past the use-by date is not worth the potential health risk. When in doubt, it's best to follow the rule: “When in doubt, throw it out.”

Allow Flexibility

While meal planning effectively reduces food waste, it is also essential to allow some flexibility for spontaneous cravings or plan changes (Durward & Adair, n.d.). Instead of planning every meal to the last detail, consider leaving one or two meals unplanned each week. This allows space to use leftovers, take advantage of unexpected food offers, or satisfy a craving. Not overplanning meals and adjusting to what is available reduces the likelihood of food going to waste.

Donate Excess

If a household cannot eat perishable food before it spoils, a local food bank or program may be able to accept a donation. Contributing food to others in need through neighborhoods, friendships, family connections, and Facebook groups, is also a great option! Donations make a difference; Feeding America, the largest food rescue organization, aims to collect 5 billion pounds of food annually, which goes to those in need (Feeding America, 2018).



Use Food Scraps

According to the EPA, 28% of food waste is scraps and garden waste—such as corn husks, herb stems, coffee grounds, and more (Hu, 2020). These scraps can be used for composting, animal feed, and creative recipes.

- **Make compost:** Whether in a bin, heap outside, or a container inside, “recycling food and other organic waste into compost provides environmental benefits, including improving soil health, reducing greenhouse gas emissions, and recycling nutrients” (Hu, 2020).
- **Feed animals:** Food scraps can be used to feed animals, reducing feed production’s outward cost and negative environmental impact, and keeping food in the human supply chain (EPA, 2023). Some large businesses divert food scraps to hog and cattle farms; at Rutgers University’s dining halls, about 1 ton of food scraps is collected daily at half the cost of sending scraps to the landfill (EPA, 2023).
- **Create scrap-based recipes:** Scraps can be used in creative, sustainable, and delicious recipes to reduce kitchen waste. Some simple ideas are to use plant ends for stock, turn vegetable peels into crispy chips, and create a vinaigrette with leftover jam jars!

- **Create regrowth gardens:** Green onions, celery, and cilantro are some plants that can grow in a cup of water in the fridge. This gives leftover plants new life and provides more ingredients for the next recipe.

Advocate

Become an advocate against food waste and get involved with organizations like [Hunger Solutions Institute](#), [Waste Less Solutions](#), [Utahns Against Hunger](#), [Feed UT](#), or [Utah Food Bank](#). These groups can use volunteers to donate meals, host a food drive, rescue food, and many other opportunities. Connect to these organizations to volunteer and make a difference.

References

- Buzby, J. C., Farah-Wells, H., & Hyman, J. (2014, February 1). *The estimated amount, value, and calories of postharvest food losses at the retail and consumer levels in the United States* (EIB No. 121). U.S. Department of Agriculture, Economic Research Service. <http://dx.doi.org/10.2139/ssrn.2501659>
- Durward, C., & Adair, M. (n.d.). *Food waste prevention part 4: Using leftovers*. Utah State University Extension. <https://extension.usu.edu/nutrition/research/food-waste-part-4>
- Environmental Protection Agency (EPA). (2023, October 19). *Reduce wasted food by feeding animals*. Retrieved June 21, 2024, from <https://www.epa.gov/sustainable-management-food/reduce-wasted-food-feeding-animals>
- Feeding America. (n.d.). *Fact about hunger in America*. Retrieved June 19, 2024, from <https://www.feedingamerica.org/hunger-in-america>
- Feeding America. (2018, October 9). *Food waste in America: How you can help rescue food*. Retrieved June 19, 2024, from <https://www.feedingamerica.org/our-work/reduce-food-waste>
- Food and Drug Administration (FDA). (2019, May). *FDA fact sheet: What you can do*. <https://fda.gov/media/101376/download>
- Food Safety and Inspection Service. (2023, November 30). *Food product dating*. USDA. Retrieved July 10, 2024, from <https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating>
- Gill, C. (2020, January 23). *Study suggests U.S. households waste nearly a third of the food they acquire*. PennState. <https://www.psu.edu/news/research/story/study-suggests-us-households-waste-nearly-third-food-they-acquire/>
- Hu, S. (2020, July 20). *Composting 101*. Natural Resources Defense Council (NRDC). <https://www.nrdc.org/stories/composting-101>
- Jaglo, K., Kenny, S., & Stephenson, J. (2021, November 30). *From farm to kitchen: The environmental impacts of U.S. food waste* (EPA 600-R21 171). Environmental Protection Agency (EPA). https://www.epa.gov/system/files/documents/2021-11/from-farm-to-kitchen-the-environmental-impacts-of-u.s.-food-waste_508-tagged.pdf
- Salazar, J. K., Natarajan, V., Stewart, D., Fay, M., Gonsalves, L. J., Mhetras, T., Sule, C., & Tortorello, M. L. (2020). *Listeria monocytogenes growth kinetics in refrigerated ready-to-eat dips and dip components*. *PloS ONE*, 15(6), e0235472. <https://doi.org/10.1371/journal.pone.0235472>
- U.S. Department of Agriculture (USDA). (2023). *Food waste FAQs*. USDA.gov. <https://www.usda.gov/foodwaste/faqs>

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