

Earth Day 2024: Four effective strategies to reduce household food waste

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Credit: Rachel Claire from Pexels

The global food system produces enough food for everyone, yet, in 2023, [333 million people worldwide were food insecure and 783 million were chronically hungry](#). An estimated [1.3 billion tons of food—14% of all produced](#)—is lost or wasted globally every year.

1.3 billion tons of food is enough to feed more than [3 billion people](#).

Food waste contributes to [nearly 8% to 10% of all greenhouse gas emissions](#). That level of emissions is on the scale of what a large country would produce—[just under total emission estimates of the United States and China](#)—posing serious contributions to climate change.

The greatest contributors to food waste are [high-income countries](#), where the average consumer wastes between [95–115 kilograms of food per year](#). In Canada, [approximately 60% of food produced](#) is lost or wasted per year, costing an estimated \$49.5 billion. This figure [constitutes about half the annual food purchase costs in Canada and 3% of Canada's 2016 GDP](#).

We are researchers who have worked or are currently working on solutions to this issue of food waste.

Why food loss and waste occurs

Food waste and loss occurs at [every stage](#) of the food chain.

Pre-distribution food loss can occur, for example, due to poor harvests. Meanwhile, the [post-harvest](#) handling and storage can also cause waste as food is discarded for imperfections or damaged in transit.

While some food loss and waste—such as with eggshells, tea bags or

bones—is unavoidable, a lot of it can be avoided, especially in retail and household settings.

The retail context is where [approximately 14% of avoidable food waste](#) occurs as foods are often overstocked by [grocery stores](#) prioritizing constant availability at the expense of wasted product.

In households, food is primarily wasted due to spoilage, with the greatest volume lost being perishables, [especially fruits and vegetables](#). This last area accounts for nearly half of all food waste in Canada.

Consequences of food loss and waste

In Canada, each household is estimated to throw away nearly three kilograms of food that could have been eaten each week. To put that number in context, that is about 15 apples or large carrots sent to the landfill unnecessarily each week.

Food costs account on average for over [11% of household income, with lower-income families having to shell out an even greater percentage of their income on food](#).

The average household is throwing away almost \$900 each year and with nearly [7 million Canadian households](#) struggling to get enough food on the table—and [2 in 5 reporting cost as a barrier](#) to healthy eating—that waste adds up.

Beyond money alone, food waste may also impact the health of our diets. Often, it's the nutrient-rich fruits, vegetables and perishables ending up in the trash, rather than shelf-stable ultra-processed foods which have known health consequences.

With food loss and waste occurring at every stage of the food chain, the

solutions are needed at every stage as well. While food loss earlier in the chain may be harder to avoid, retailers and households hold the power to address food waste every day.

Current solutions targeting food waste include upcycling food waste, creating city compost programs to reroute waste away from landfills, and promoting consumer awareness via education to prevent food from becoming waste in the first place.

Interventions for food waste in practice

Eager to address this global issue, our research group developed and piloted a [four-week intervention](#) in 2020 to reduce household food waste among Canadian families.

Mothers, fathers, and children were invited to participate in four week intervention with the following components:

- 1) A cooking class
- 2) Four text messages per week including information about food waste and reminders to reduce waste
- 3) A toolkit, which included things like a veggie brush (to reduce vegetable peel waste), a [cookbook](#) focused on reducing food waste, meal and shopping planner, reusable containers to store leftovers and a [fridge magnet poster showing where foods are best stored](#).

The families reported high satisfaction with the overall intervention and special appreciation for the cookbook and veggie brush as tools in food waste prevention.

Parents also reported increases in confidence to reduce household food

waste. The children involved in the study also reported improved ability to interpret best before dates—or food that is not as fresh as it was, but still perfectly edible.

At the household level, we found a 37% decrease in avoidable fruit and vegetable waste measured using four-week [food waste audits](#) where waste was collected and weighed out separately.

These results are promising in that they demonstrate that even in the height of the COVID-19 pandemic (summer 2020), families could still reduce food waste using simple tools and prompts without decreasing fruit and vegetable intake. Another promising result is that we were able to engage both parents and children, resulting in individual and household-level changes.

Tips for healthier eating and reduced food waste

Incorporating [healthy food](#) into our diets should not be too much of a chore, but busy schedules and [rising grocery prices](#) can get in the way.

Finding simple ways to reduce household [food waste](#) is crucial.

That said, responsibility for food loss and waste should not only fall on individual consumers. While individuals can make a difference, larger policy changes—in how food is grown, processed and distributed—are also needed.

If you are interested in eating healthier and helping improve our planet's health, here are some steps you can take:

1. Plan your meals before shopping
2. Learn to love leftovers
3. Properly store food for minimum spoilage

4. Advocate for change

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