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# The Estimated Amount, Value, and Calories of Postharvest Food Losses at the Retail and Consumer Levels in the United States

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## What Is the Issue?

“Food loss” represents the amount of edible food, postharvest, that is available for human consumption but is not consumed for any reason; it includes cooking loss and natural shrinkage (e.g., moisture loss); loss from mold, pests, or inadequate climate control; and plate waste. “Food waste” is a component of food loss and occurs when an edible item goes unconsumed, such as food discarded by retailers due to undesirable color or blemishes and plate waste discarded by consumers. Food loss (particularly the food waste component) is becoming an increasingly important topic both domestically and internationally. Better estimates of the amount and value of food loss, including food waste, could help serve as quantitative baselines for policymakers and the food industry to set targets and develop initiatives, legislation, or policies to minimize food waste, conserve resources, and improve human nutrition. Reducing food loss would likely reduce food prices in the United States and the rest of the world, though the effects depend on the nature of supply, including import and export considerations.

## What Did the Study Find?

In the United States, 31 percent—or 133 billion pounds—of the 430 billion pounds of the available food supply at the retail and consumer levels in 2010 went uneaten. Retail-level losses represented 10 percent (43 billion pounds) and consumer-level losses 21 percent (90 billion pounds) of the available food supply. (Losses on the farm and between the farm and retailer were not estimated due to data limitations for some of the food groups.)

The estimated total value of food loss at the retail and consumer levels in the United States was \$161.6 billion in 2010. The top three food groups in terms of share of total value of food loss were meat, poultry, and fish (30 percent, \$48 billion); vegetables (19 percent, \$30 billion); and dairy products (17 percent, \$27 billion). The total amount of food loss represents 387 billion calories (technically, we mean *Calorie* or kcal *hereafter*) of food not available for human consumption per day in 2010, or 1,249 out of 3,796 calories available per American per day. Recovery costs, food safety considerations, and other factors would reduce the amount of food that could actually be recovered for human consumption.

ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

The study also reviewed the literature and found that food loss is economically efficient in some cases. There is a practical limit to how much food loss the United States or any other country could realistically prevent, reduce, or recover for human consumption given: (1) technical factors (e.g., the perishable nature of most foods, food safety, storage, and temperature considerations); (2) temporal and spatial factors (e.g., the time needed to deliver food to a new destination, and the dispersion of food loss among millions of households, food processing plants, and foodservice locations); (3) individual consumers' tastes, preferences, and food habits (e.g., throwing out milk left over in a bowl of cereal); and (4) economic factors (e.g., costs to recover and redirect uneaten food to another use).

## **How Was the Study Conducted?**

This report uses data from ERS's Loss-Adjusted Food Availability (LAFA) data series. This data series is ERS's core Food Availability data series, adjusted for spoilage, plate waste, and other food losses and converted to daily per capita amounts, calories, and *food pattern equivalents* (previously called servings and *MyPyramid equivalents*). Here, the LAFA data series' underlying loss assumptions are used to estimate food loss at the retail and consumer levels. The LAFA data series is considered to be preliminary because ERS continues to improve the underlying loss assumptions and the documentation of the data series. In August 2012, new estimates for consumer-level loss were incorporated into the data series. Therefore, the relative contribution of the different food groups out of total food loss has changed from previous ERS publications on food loss. The analysis is an extrapolation from the data as of September 2012 and is not based on an equilibrium model. For each food group covered here, we calculated the amount, value, and representative calories of food loss at the retail and consumer levels in the United States in 2010. The value estimates are based on retail prices.