

# Much fridge food 'goes there to die'

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Americans throw out a lot more food than they expect they will, food waste that is likely driven in part by ambiguous date labels on packages, a new study has found.

"People eat a lot less of their refrigerated [food](#) than they expect to, and

they're likely throwing out perfectly good food because they misunderstand labels," said Brian Roe, the study's senior author and a professor agricultural, environmental and development economics at The Ohio State University.

This is the first study to offer a data-driven glimpse into the refrigerators of American homes, and provides an important framework for efforts to decrease food waste, Roe said. It was published online this month and will appear in the November print issue of the journal *Resources, Conservation & Recycling*.

Survey participants expected to eat 97 percent of the meat in their refrigerators but really finished only about half. They thought they'd eat 94 percent of their vegetables, but consumed just 44 percent. They projected they'd eat about 71 percent of the fruit and 84 percent of the dairy, but finished off just 40 percent and 42 percent, respectively.

Top drivers of discarding food included concerns about [food safety](#)—odor, appearance and dates on the labels.

"No one knows what 'use by' and 'best by' labels mean and people think they are a safety indicator when they are generally a quality indicator," Roe said, adding that there's a proposal currently before Congress to prescribe date labeling rules in an effort to provide some clarity.

Under the proposal, "Best if used by" would, as Roe puts it, translate to "Follow your nose," and "Use by" would translate to "Toss it."

Other findings from the new study:

- People who cleaned out their refrigerators more often wasted more food.
- Those who check nutrition labels frequently waste less food. Roe

speculated that those consumers may be more engaged in food and therefore less likely to waste what they buy.

- Younger households were less likely to use up the items in their refrigerators while homes to those 65 and older were most likely to avoid waste.

Household food waste happens at the end of the line of a series of behaviors, said Megan Davenport, who led the study as a graduate student in Ohio State's Department of Agricultural, Environmental and Development Economics.

"There's the purchasing of food, the management of food within the home and the disposal, and these household routines ultimately increase or decrease waste. We wanted to better understand those relationships, and how individual products—including their labels—affect the amount of food waste in a home," Davenport said.

The web-based pilot study used data from the State of the American Refrigerator survey and included information about refrigerator contents and practices from 307 initial survey participants and 169 follow-up surveys.

The researchers asked about fruits, vegetables, meats and dairy—in particular how much was there and how much people expected to eat. Then they followed up about a week later to find out what really happened. The surveys also asked about a variety of factors that may have influenced decisions to toss food, including date labels, odor, appearance and cost.

An estimated 43 percent of food waste is due to in-home practices—as opposed to waste that happens in restaurants, [grocery stores](#) and on the farm—making individuals the biggest contributors. They're also the most complicated group in which to drive change, given that practices vary

significantly from home to home, Roe said.

"We wanted to understand how people are using the refrigerator and if it is a destination where half-eaten food goes to die," he said.

"That's especially important because much of the advice that consumers hear regarding food waste is to refrigerate (and eat) leftovers, and to 'shop' the refrigerator first before ordering out or heading to the store."

Roughly one-third of the food produced worldwide for human consumption—approximately 1.3 billion tons annually—is lost or wasted, according to the Food and Agriculture Organization of the United Nations. The organization estimates the annual dollar value of that waste at \$680 billion in industrialized countries and \$310 billion in developing countries.

This study looked at refrigerated food because that's where most perishable foods are found in a household and where the bulk of efforts to encourage people to waste less food have been focused. In addition to better understanding food waste patterns, the researchers wanted to help identify opportunities to design policy or public messaging that will work in driving down [waste](#).

"Our results suggest that strategies to reduce [food waste](#) in the U.S. should include limiting and standardizing the number of phrases used on date labels, and education campaigns to help consumers better understand the physical signs of food safety and quality," Davenport said.

**More information:** Megan L. Davenport et al, Food-related routines, product characteristics, and household food waste in the United States: A refrigerator-based pilot study, *Resources, Conservation and Recycling* (2019). [DOI: 10.1016/j.resconrec.2019.104440](https://doi.org/10.1016/j.resconrec.2019.104440)

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