

Consumer support of food-waste solutions focus of agricultural economist's study

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When it comes to reducing food waste, consumers most favor solutions that involve making food donations easier and establishing standards for food date labels.

That is one finding of a study—among the first to examine support and perceived effectiveness for popular [food waste](#) solutions—led by an agricultural economist in Penn State's College of Agricultural Sciences.

The average U.S. household wastes an estimated 32 percent of purchased [food](#), translating to \$240 billion in economic losses, according to Linlin Fan, assistant professor of agricultural economics.

"This large amount of food [waste](#) is cause for concern," she said. "Food waste increases [food insecurity](#) by decreasing global and local availability of food, tightening the food market, elevating [food prices](#), and using natural resources unsustainably to harm future food production."

Other problems associated with food waste, she pointed out, include the loss of resources used to produce food—such as water, land and labor—and costs associated with the disposal and treatment of discarded food.

Several pieces of legislation, including the Food Recovery Act of 2017, the Food Donation Act of 2017, the 2018 U.S. Farm Bill and the Food Date Labeling Act of 2019, have provisions aimed at cutting food waste in half by 2030, focusing on waste at retail and household levels.

While food waste solutions vary in terms of expected costs, benefits and the likelihood of success, Fan said it is important to analyze people's support and perceived efficacy of these solutions to assess the political feasibility of each as a policy option.

Additionally, she said it's important to examine what [social scientists](#) call the "vote-buy" gap or "claim-action" gap, which happens when people say one thing but do another. For example, some people support the idea of raising chickens in cage-free conditions but don't buy cage-free eggs

because they cost more.

"The claim-action gap is interesting because food policies often change due to changes in public opinions," Fan said. "When a social consensus becomes apparent, changes may be made at the legislative level even if they are not desired in the market. The same logic may apply to people's attitudes and actual behavioral responses to food waste policies."

To gauge consumers' support for the suggested food waste solutions, Fan and her team conducted an [online survey](#) of about 1,500 panelists. Participants were recruited from an existing consumer panel to match the U.S. population in sex, age, income, race and education. To participate, respondents had to be responsible for at least 50 percent of grocery shopping in the household.

Respondents also reported their sex, age, income, education, race, state of residence, presence of children in the household and whether they received benefits from the Supplemental Nutrition Assistance Program, widely known as SNAP.

The survey proposed nine solutions to reduce food waste: changes in food packaging, changes in portion sizes, standardization of date-labeling terms, selling imperfect produce in retail stores, making food donations easier, feeding uneaten food to animals, implementing composting in communities, creating consumer education campaigns on food waste, and taxing food waste.

The researchers randomly assigned survey respondents to answer questions about support and effectiveness of the nine food waste solutions. The survey also asked participants about their own grocery shopping behaviors that mitigate food waste and generation.

The scientists, who recently published their findings in the *Journal of*

Cleaner Production, found that making food donations easier and standardizing date labels were the two most popular food waste solutions, with more than 90 percent support and more than 80 percent agreement of effectiveness.

As for ways to make donations easier, Fan pointed to a recently adopted law in France that bans supermarkets from throwing away edible food and requires them to partner with an organization that can redistribute food. In addition, Italy now allows outdated—but safe—food to be given to hunger-relief organizations.

Fan also said that clarifying dates on food labels can help reduce consumer confusion about the meaning of terms such as "best by," which refers to quality, and "use by," which relates to food safety.

The survey also revealed that "Use uneaten food to feed animals," "Changes in food packaging," and "Consumer education campaigns on food waste" had similar levels of support from respondents, each with almost 90 percent of the respondents saying that they definitely or might support the strategy.

In comparison, 75 percent of the respondents definitely or might support "Sell imperfect produce in retail stores." "Taxing food waste" had the least support—13 percent of the respondents definitely would support it, and 23 percent might support it.

The study also suggested that different food waste solutions appeal to people based on their personal food waste experiences. For instance, respondents who used meal kit services were less likely to support diversion strategies such as feeding animals or donations. "A possible explanation is that meal kits are individually portioned meals, which may lead to less food waste in the household to feed animals or donate," Fan said.

Finally, Fan pointed out that the percentage of respondents who considered each food waste solution effective was almost always less than the share of respondents who supported the [solution](#). The gap between effectiveness and support rate could arise from difficulties in changing consumer behavior.

"Future research could assess the costs and benefits of different food waste solutions," she said. "We hope our research provides policymakers with insight that can be used to develop food waste policies that consumers will support."

More information: Linlin Fan et al, What Food waste solutions do people support?, *Journal of Cleaner Production* (2021). [DOI: 10.1016/j.jclepro.2021.129907](#)

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