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ERS's Food Loss Data Help Inform the Food Waste Discussion

by Jean C. Buzby, Hodan Farah Wells, and Jeanine Bentley

Food loss and food waste are becoming increasingly important issues as the world's population grows and as pressures on agricultural land and other resources increase. ERS researchers calculate that at the retail and consumer levels, an estimated 133 billion pounds, or 31 percent of the 430 billion pounds of food available for human consumption in the United States in 2010, was not eaten. At 2010 retail prices, this translates into $161.6 billion worth of food. The estimate would have been higher if it accounted for losses at the farm and between the farm and retail level. However, not all

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uneaten food is recoverable, or recoverable in a cost-effective manner. Some amount of food loss is necessary to provide an affordable, diverse, and safe food supply. Identifying how much and where food loss occurs in the food system is the first step in efforts to reduce food waste.

ERS's Food Availability Data System includes the Loss-Adjusted Food Availability (LAFA) data series that adjusts national estimates of food supplies for nonedible parts of foods (bones, peels, etc.) and losses from farm to fork. The LAFA series is considered a work-in-progress because ERS continues to refine the underlying loss assumptions and estimates. Researchers used the loss adjustments for the 215 foods in the LAFA series to calculate amounts and values of each food lost at the retail and consumer levels in 2010. Retail losses include dented cans, unpurchased holiday foods, spoilage, and the culling of blemished or misshaped foods. Consumer losses include spoilage, cooking shrinkage, and plate waste.

On a weight basis, the estimated combined retail and consumer losses were split fairly evenly across six of the nine major food groups, with eggs, the added fats and oils group, and the tree nuts and peanuts group having smaller loss shares. The size of the losses reflects both the relative amounts of food sold and prepared as well as loss-related characteristics, such as perishability, consumers' tastes and preferences, and consumers misjudging the amount of food to buy or prepare.

U.S. food losses vary across food groups

		Losses from food supply			
Food group	Food supply[a]	Retail level		Consumer level	
	Billion pounds	*Billion pounds*	*Percent*	*Billion pounds*	*Percent*
Grain products	60.4	7.2	12	11.3	19
Fruit	64.3	6.0	9	12.5	19
Fresh	37.6	4.4	12	9.5	25
Processed	26.7	1.6	6	2.9	11

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Vegetables	83.9	7.0	8	18.2	22
Fresh	53.5	5.2	10	12.8	24
Processed	30.4	1.8	6	5.3	18
Dairy products	83.0	9.3	11	16.2	20
Fluid milk	53.8	6.5	12	10.5	20
Other dairy products	29.1	2.8	10	5.7	19
Meat, poultry, and fish	58.4	2.7	5	12.7	22
Meat	31.6	1.4	4	7.2	23
Poultry	22.0	0.9	4	3.9	18
Fish and seafood	4.8	0.4	8	1.5	31
Eggs	9.8	0.7	7	2.1	21
Tree nuts and peanuts	3.5	0.2	6	0.3	9
Added sugar and sweeteners	40.8	4.5	11	12.3	30
Added fats and oils	26.0	5.4	21	4.5	17
Total	430.0	43.0	10	89.9	21

Note: Categories do not sum to totals due to rounding.

[a]Food supply at the retail level, which is the foundation for the retail- and consumer-level loss stages.
Source: USDA, Economic Research Service, 2010 ERS Loss-Adjusted Food Availability data as of Sept. 17, 2012, and the U.S. population on July 1, 2010 (309.75 million).

On a value basis, the loss shares shift somewhat. The meat, poultry, and fish group, which had the sixth largest loss share by weight (12 percent), has the largest share (30 percent) in terms of estimated value, reflecting this group's higher cost per pound relative to the other groups and other factors, such as cooking shrinkage (e.g., fat drained off ground beef during cooking). Vegetables and dairy products, which both had 19-percent loss shares on a weight basis, had loss shares of 19 percent and 17 percent, respectively, on a value basis. Loss shares for added sugars and sweeteners and grain products were smaller when expressed on a value basis than as a weight.

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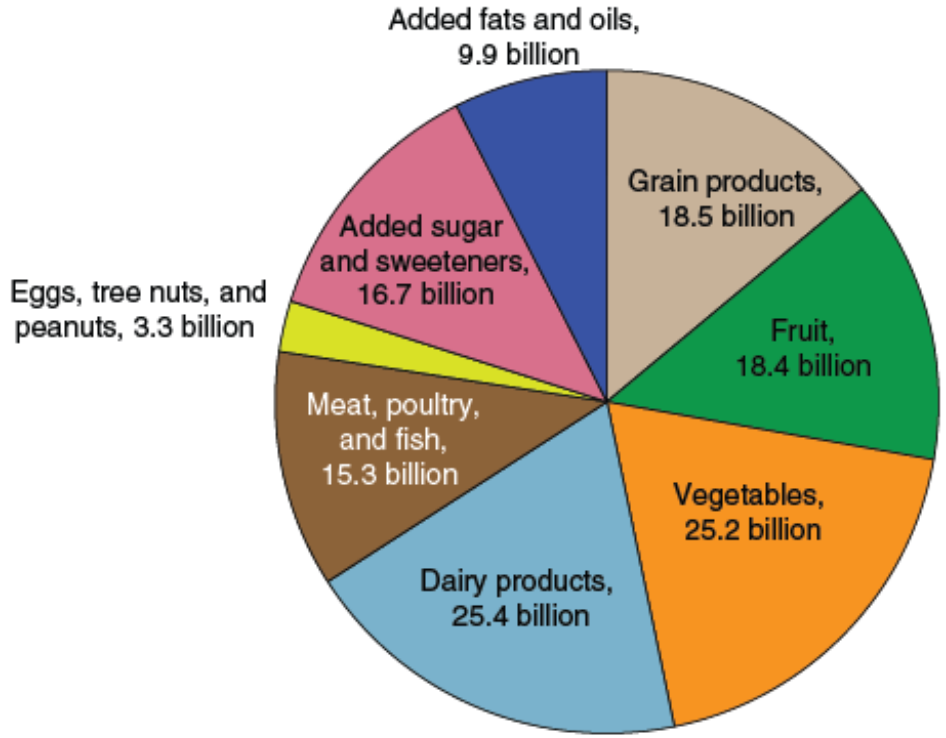
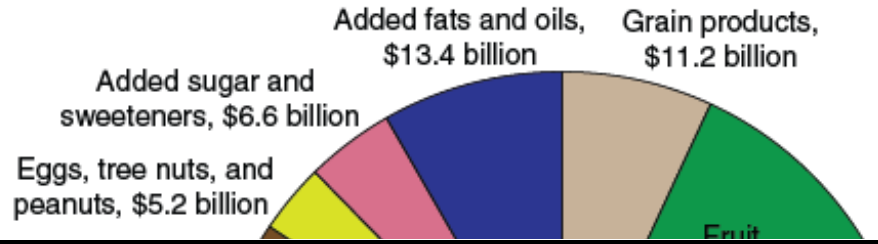
At the retail and consumer levels, dairy products account for the largest share of U.S. food loss on a weight basis. . .

Estimated total amount in 2010, 132.9 billion pounds



. . .and meat, poultry, and fish account for the largest share on a value basis

Estimated total value in 2010, $161.6 billion



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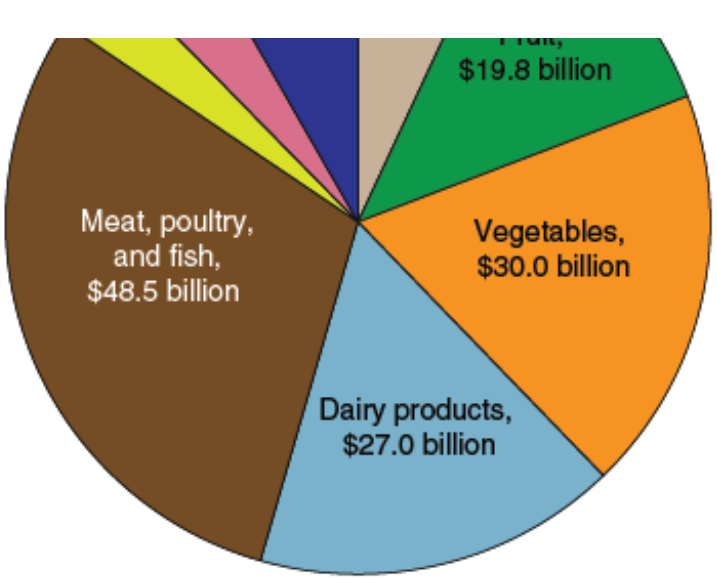

Note: Categories do not sum to totals due to rounding.
Source: USDA, Economic Research Service, Loss-Adjusted Food Availability Data.

At the consumer level, the LAFA series reveals that on a per person basis, 290 pounds, or 0.8 pounds per day, of food was not eaten in 2010. This is valued at $371, or 9.2 percent of the $4,016 average amount spent on food per person in 2010. Meat, poultry, and fish; vegetables; and dairy products accounted for 68 percent of the annual loss.

Some food loss is inevitable because shrinkage is a natural process in cooking, food is inherently perishable, and some losses—like the discard of opened food containers and moldy fruit at the supermarket—are necessary to ensure the safety and wholesomeness of the food supply. Likewise at restaurants, plate scraps not taken home by patrons are appropriately discarded as a health consideration. The costs and resources used to recover and transport wholesome food must also be considered when developing cost-effective ways to reduce food waste. Awareness of the scope and sources of food loss may result in new government policies, enhanced food-handling practices and technologies, behavioral changes among consumers, or other actions that reduce food waste and conserve resources.

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This article is drawn from...

Food Availability (Per Capita) Data System, by Jeanine Bentley, USDA, Economic Research Service, November 2015

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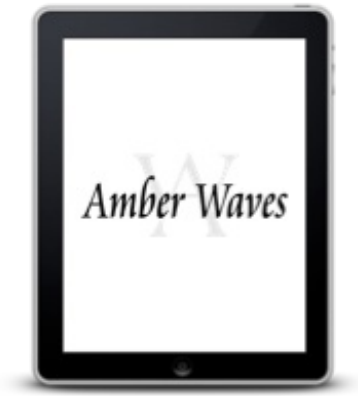
"Total and Per Capita Value of Food Loss in the United States,", by Jean C. Buzby and Jeffrey Hyman, in Food Policy, 37, 5:561-570, www.sciencedirect.com/science/article/pii/S0306919212000693, October 2012

"The Value of Retail- and Consumer-Level Fruit and Vegetable Losses in the United States," , by Jean C. Buzby, Jeffrey Hyman, Hayden Stewart, and Hodan F. Wells, in The Journal of Consumer Affairs, 45, 3: 492-515, http://onlinelibrary.wiley.com/doi/10.1111/j.1745-6606.2011.01214.x/pdf , 2011



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