Appendices:
Estimating the Cost of Food Waste to American Consumers
(EPA 600/R25/048, April 2025)

Contents

Appendix A: LAFA Consumer Food Waste by Commodity

Below are the per capita consumer food waste estimates for each individual commodity reported in the U.S. Department of Agriculture's (USDA's) Loss-Adjusted Food Availability (LAFA) data series (U.S. Department of Agriculture, 2025a). The black rows identify the main commodity groups (e.g., grain products), the light grey italicized rows provide subtotals for specific types of commodities (e.g., wheat flour, rye flour, corn products, oat products), and the dark grey rows provide subtotals for similar groupings within each product group (e.g., total grain products).

To calculate the consumer food waste estimates, the per capita availability adjusted for consumer-level loss (e.g., cooking loss, uneaten food) was subtracted from the total consumer weight (see Equation 1). In some cases, the adjusted per capita availability was subtracted from the edible weight instead of the total consumer weight because the LAFA data remove inedible portions of foods from the loss estimates (see section 2.1 in this report for further clarification). These cases and subsequent values are highlighted in orange, as indicated by footnote 1.

For some individual commodities (meat, poultry, eggs, nuts, and added fats and oils), adjustments were made to generate more updated estimates than were provided by the most recent LAFA data; these years and estimates are highlighted in blue. Please refer to the footnotes for specific adjustments, as the calculations and methodologies varied for different commodities.

Table A-1: LAFA consumer food waste by commodity.

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
GRAIN PRODUCTS				
Grain products	Wheat flour	White and whole wheat flour	2022	21.30
Grain products	Wheat flour	Durum flour	2022	2.10
Grain products	*Wheat flour*	*TOTAL*		*23.40*
Grain products	Rye flour	Rye flour	2022	0.06
Grain products	*Rye flour*	*TOTAL*		*0.06*

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[1] Highlighted cells indicate per capita food waste values that use edible weight to calculate per capita food waste (due to the removal of nonedible portions accounted for in consumer weight).

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Grain products	Corn products	Corn flour and meal	2022	3.70
Grain products	Corn products	Corn hominy and grits	2022	1.70
Grain products	Corn products	Corn starch	2022	0.85
Grain products	*Corn products*	*TOTAL*		*6.25*
Grain products	Oat products	Oat products	2022	1.29
Grain products	*Oat products*	*TOTAL*		*1.29*
Grain products	**TOTAL GRAIN PRODUCTS[2]**	**TOTAL**		**31.00**
MEAT, FISH, EGGS, NUTS				
Meat, fish, eggs, nuts	Red meat	Beef	*2021[3]*	*11.25*
Meat, fish, eggs, nuts	Red meat	Veal	*2021*	*0.02*
Meat, fish, eggs, nuts	Red meat	Pork	*2021*	*14.04*
Meat, fish, eggs, nuts	Red meat	Lamb	*2021*	*0.25*
Meat, fish, eggs, nuts	**TOTAL MEAT**	**TOTAL**		**25.56**
Meat, fish, eggs, nuts	Poultry	Chicken	*2021*	*9.81*
Meat, fish, eggs, nuts	Poultry	Turkey	*2021*	*4.09*

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[2] Rice is not included because annual data and per capita estimates for rice are unavailable beyond 2010. If the LAFA rice value from 2010 was used in this report's estimation, the total category cost provided in Table 1 would be approximately $15 higher, or a 30% increase.

[3] For all cells with blue highlights and italicized values within the meat and poultry groupings, the boneless per capita availability from the Food Availability (Per Capita) Data System (FADS) data series was utilized to calculate the consumer weight using retail/institutional- and consumer-level loss percentages, then followed the same calculation methods as detailed in the LAFA methodology (Kantor et al., 1997; Muth et al., 2011) and within this report (section 2.1).

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Meat, fish, eggs, nuts	**TOTAL POULTRY**	**TOTAL**		*13.90*
Meat, fish, eggs, nuts	Fresh and frozen fish	Fresh and frozen fish	2018	2.29
Meat, fish, eggs, nuts	Fresh and frozen fish	Fresh and frozen shellfish	2018	2.18
Meat, fish, eggs, nuts	*Fresh and frozen fish*	*TOTAL*		*4.47*
Meat, fish, eggs, nuts	Canned fish and shellfish	Canned salmon	2018	0.02
Meat, fish, eggs, nuts	Canned fish and shellfish	Canned sardines	2018	0.08
Meat, fish, eggs, nuts	Canned fish and shellfish	Canned tuna	2018	0.34
Meat, fish, eggs, nuts	Canned fish and shellfish	Canned shellfish	2018	0.08
Meat, fish, eggs, nuts	Canned fish and shellfish	Other canned fish	2018	0.09
Meat, fish, eggs, nuts	*Canned fish and shellfish*	*TOTAL*		*0.60*
Meat, fish, eggs, nuts	Cured fish	Cured fish	2018	0.05
Meat, fish, eggs, nuts	*Cured fish*	*TOTAL*		*0.05*
Meat, fish, eggs, nuts	**TOTAL FISH AND SHELLFISH**	**TOTAL**		**5.12**
Meat, fish, eggs, nuts	Eggs	Eggs	2021[4]	6.78

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[4] For eggs, the per capita farm weight from the FADS data series was used as the primary weight, then followed the same calculation methods as detailed in the LAFA methodology (Kantor et al., 1997; Muth et al., 2011) and within this report (section 2.1).

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Meat, fish, eggs, nuts	**TOTAL EGGS**	**TOTAL**		**6.78**
Meat, fish, eggs, nuts	Peanuts	Peanuts	2020[5]	0.30
Meat, fish, eggs, nuts	*Peanuts*	*TOTAL*		*0.30*
Meat, fish, eggs, nuts	Tree nuts	Almonds	2020	0.50
Meat, fish, eggs, nuts	Tree nuts	Hazelnuts (filberts)	2020	0.01
Meat, fish, eggs, nuts	Tree nuts	Pecans	2020	0.07
Meat, fish, eggs, nuts	Tree nuts	Walnuts	2020	0.10
Meat, fish, eggs, nuts	Tree nuts	Macadamia nuts	2020	0.00
Meat, fish, eggs, nuts	Tree nuts	Pistachio nuts	2020	0.09
Meat, fish, eggs, nuts	Tree nuts	Other tree nuts	2020	0.22
Meat, fish, eggs, nuts	*Tree nuts*	*TOTAL*		*0.99*
Meat, fish, eggs, nuts	**TOTAL TREE NUTS AND PEANUTS**	**TOTAL**		**1.29**
Meat, fish, eggs, nuts	Coconut	Coconut	2020	0.08
Meat, fish, eggs, nuts	*Coconut*	*TOTAL*		*0.08*

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[5] For tree nuts and peanuts, the per capita weight from the FADS data series was used as the primary weight, then followed the same calculation methods as detailed in the LAFA methodology (Kantor et al., 1997; Muth et al., 2011) and within this report (section 2.1).

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Meat, fish, eggs, nuts	TOTAL MEAT, FISH, EGGS, NUTS	TOTAL		52.73
FRUIT				
Fruit	Fresh citrus	Fresh oranges and temples	2022	1.79
Fruit	Fresh citrus	Fresh tangerines and tangelos	2022	1.87
Fruit	Fresh citrus	Fresh grapefruit	2022	0.09
Fruit	Fresh citrus	Fresh lemons	2022	1.05
Fruit	Fresh citrus	Fresh limes	2022	1.39
Fruit	*Fresh citrus*	*TOTAL*		*6.19*
Fruit	Fresh noncitrus	Fresh apples	2021	2.21
Fruit	Fresh noncitrus	Fresh apricots	2021	0.01
Fruit	Fresh noncitrus	Fresh avocados	2021	1.57
Fruit	Fresh noncitrus	Fresh bananas	2021	3.30
Fruit	Fresh noncitrus	Fresh blueberries	2021	0.16
Fruit	Fresh noncitrus	Fresh cantaloupe	2021	0.85
Fruit	Fresh noncitrus	Fresh cherries	2021	0.55
Fruit	Fresh noncitrus	Fresh cranberries	2021	0.01
Fruit	Fresh noncitrus	Fresh grapes	2021	2.24
Fruit	Fresh noncitrus	Fresh honeydew melons	2021	0.20

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Fruit	Fresh noncitrus	Fresh kiwifruit	2021	0.24
Fruit	Fresh noncitrus	Fresh mangoes	2021	0.25
Fruit	Fresh noncitrus	Fresh papaya	2021	0.10
Fruit	Fresh noncitrus	Fresh peaches and nectarines	2021	0.74
Fruit	Fresh noncitrus	Fresh pears	2021	0.25
Fruit	Fresh noncitrus	Fresh pineapple	2021	0.96
Fruit	Fresh noncitrus	Fresh plums and prunes	2021	0.10
Fruit	Fresh noncitrus	Fresh raspberries	2021	0.15
Fruit	Fresh noncitrus	Fresh strawberries	2021	1.90
Fruit	Fresh noncitrus	Fresh watermelon	2021	0.65
Fruit	*Fresh noncitrus*	*TOTAL*		*16.43*
Fruit	**TOTAL FRESH FRUIT**	**TOTAL**		**22.61**
Fruit	Canned fruit	Canned apples and applesauce	2021	0.25
Fruit	Canned fruit	Canned apricots	2021	0.01
Fruit	Canned fruit	Canned sweet cherries	2021	0.01
Fruit	Canned fruit	Canned tart cherries	2021	0.02
Fruit	Canned fruit	Canned peaches	2021	0.17
Fruit	Canned fruit	Canned pears	2021	0.09
Fruit	Canned fruit	Canned pineapple	2021	0.16

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Fruit	Canned fruit	Canned plums and prunes	2021	0.00
Fruit	Canned fruit	Canned olives	2021	0.22
Fruit	*Canned fruit*	*TOTAL*		*0.94*
Fruit	Frozen berries	Frozen blueberries	2021	0.24
Fruit	Frozen berries	Frozen raspberries	2021	0.09
Fruit	Frozen berries	Frozen strawberries	2021	0.48
Fruit	Frozen berries	Other frozen berries	2021	0.02
Fruit	*Frozen berries*	*TOTAL*		*0.83*
Fruit	Frozen other fruit	Frozen apples	2021	0.12
Fruit	Frozen other fruit	Frozen apricots	2021	0.00
Fruit	Frozen other fruit	Frozen sweet cherries	2021	0.07
Fruit	Frozen other fruit	Frozen tart cherries	2021	0.10
Fruit	Frozen other fruit	Frozen peaches	2021	0.10
Fruit	Frozen other fruit	Frozen plums and prunes	2015	0.00
Fruit	*Frozen other fruit*	*TOTAL*		*0.38*
Fruit	Dried fruit	Dried apples	2021	0.01
Fruit	Dried fruit	Dried apricots	2021	0.01
Fruit	Dried fruit	Dried dates	2021	0.08
Fruit	Dried fruit	Dried figs	2021	0.03

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Fruit	Dried fruit	Dried peaches	2021	0.00
Fruit	Dried fruit	Dried plums (prunes)	2021	0.03
Fruit	*Dried fruit*	*TOTAL*		*0.17*
Fruit	Citrus juice	Grapefruit juice	2021	0.05
Fruit	Citrus juice	Lemon juice	2021	0.14
Fruit	Citrus juice	Lime juice	2021	0.03
Fruit	Citrus juice	Orange, temple, tangerine and tangelo juice	2021	1.84
Fruit	*Citrus juice*	*TOTAL*		*2.06*
Fruit	Noncitrus juice	Apple juice	2021	1.63
Fruit	Noncitrus juice	Cranberry juice	2021	0.19
Fruit	Noncitrus juice	Grape juice	2021	0.26
Fruit	Noncitrus juice	Pineapple juice	2021	0.16
Fruit	Noncitrus juice	Prune juice	2021	0.03
Fruit	*Noncitrus juice*	*TOTAL*		*2.28*
Fruit	**TOTAL PROCESSED FRUIT**	**TOTAL**		**6.67**
DAIRY				
Dairy	All plain milk	Plain whole milk	2021	8.43
Dairy	All plain milk	Plain 2-percent milk	2021	7.75
Dairy	All plain milk	Plain 1-percent milk	2021	2.89

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Dairy	All plain milk	Skim milk	2021	1.43
Dairy	All flavored milk	Whole flavored milk	2021	0.97
Dairy	All flavored milk	Lower fat flavored milk	2021	4.01
Dairy	Buttermilk	Buttermilk	2021	0.22
Dairy	Dairy share of eggnog	Dairy share of eggnog	2021	0.19
Dairy	Miscellaneous fluid milk	Miscellaneous fluid milk	2021	0.70
Dairy	**TOTAL FLUID MILK**	**TOTAL**		**26.58**
Dairy	Refrigerated yogurt	Refrigerated yogurt	2021	2.64
Dairy	All American cheese	Cheddar cheese	2021	1.18
Dairy	All American cheese	Other American cheese	2021	1.22
Dairy	All Italian cheese	Mozzarella cheese	2021	3.58
Dairy	All Italian cheese	Other Italian cheese	2021	0.53
Dairy	Total miscellaneous cheese	Swiss cheese	2021	0.49
Dairy	Total miscellaneous cheese	Brick cheese	2021	0.00
Dairy	Total miscellaneous cheese	Muenster cheese	2021	0.17
Dairy	Total miscellaneous cheese	Blue cheese	2021	0.12
Dairy	Total miscellaneous cheese	Other miscellaneous cheese	2021	0.61
Dairy	Total cottage cheese	Regular cottage cheese	2021	0.28
Dairy	Total cottage cheese	Lowfat cottage cheese	2021	0.03

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Dairy	Frozen dairy products	Regular ice cream	2021	2.54
Dairy	Frozen dairy products	Lowfat ice cream (ice milk)	2021	1.37
Dairy	Frozen dairy products	Frozen yogurt, sherbet, and other misc. frozen products	2021	1.01
Dairy	All evaporated condensed milk	Evaporated and condensed canned whole milk	2021	0.20
Dairy	All evaporated condensed milk	Evaporated and condensed bulk whole milk	2021	0.07
Dairy	All evaporated condensed milk	Evaporated and condensed bulk and canned skim milk	2021	0.59
Dairy	Dry milk products	Dry whole milk	2021	0.09
Dairy	Dry milk products	Nonfat dry milk	2021	0.95
Dairy	Dry milk products	Dry buttermilk	2021	0.15
Dairy	**TOTAL OTHER DAIRY**	**TOTAL**		**17.82**
VEGETABLES				
Vegetables	Fresh vegetables	Fresh artichokes	2022	0.03
Vegetables	Fresh vegetables	Fresh asparagus	2022	0.12
Vegetables	Fresh vegetables	Fresh bell peppers	2022	2.86
Vegetables	Fresh vegetables	Fresh broccoli	2022	0.33
Vegetables	Fresh vegetables	Fresh Brussels sprouts	2022	0.10
Vegetables	Fresh vegetables	Fresh cabbage	2022	1.07
Vegetables	Fresh vegetables	Fresh carrots	2022	2.27

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Vegetables	Fresh vegetables	Fresh cauliflower	2022	0.03
Vegetables	Fresh vegetables	Fresh celery	2022	1.18
Vegetables	Fresh vegetables	Fresh collard greens	2022	0.14
Vegetables	Fresh vegetables	Fresh sweet corn	2022	0.39
Vegetables	Fresh vegetables	Fresh cucumbers	2022	1.53
Vegetables	Fresh vegetables	Fresh eggplant	2022	0.15
Vegetables	Fresh vegetables	Fresh escarole and endive	2022	0.02
Vegetables	Fresh vegetables	Fresh garlic	2022	0.69
Vegetables	Fresh vegetables	Fresh kale	2022	0.15
Vegetables	Fresh vegetables	Fresh head lettuce	2022	1.77
Vegetables	Fresh vegetables	Fresh Romaine and leaf lettuce	2022	1.79
Vegetables	Fresh vegetables	Fresh lima beans	2022	0.00
Vegetables	Fresh vegetables	Fresh mushrooms	2021	0.35
Vegetables	Fresh vegetables	Fresh mustard greens	2022	0.08
Vegetables	Fresh vegetables	Fresh okra	2022	0.09
Vegetables	Fresh vegetables	Fresh onions	2022	6.52
Vegetables	Fresh vegetables	Fresh potatoes	2022	3.61
Vegetables	Fresh vegetables	Fresh pumpkin	2022	2.00
Vegetables	Fresh vegetables	Fresh radishes	2022	0.24

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Vegetables	Fresh vegetables	Fresh snap beans	2022	0.19
Vegetables	Fresh vegetables	Fresh spinach	2022	0.10
Vegetables	Fresh vegetables	Fresh squash	2022	0.75
Vegetables	Fresh vegetables	Fresh sweet potatoes	2022	1.55
Vegetables	Fresh vegetables	Fresh tomatoes	2022	0.88
Vegetables	Fresh vegetables	Fresh turnip greens	2022	0.03
Vegetables	**TOTAL FRESH VEGETABLES**	**TOTAL**		**31.01**
Vegetables	Canned vegetables	Canned asparagus	2019	0.00
Vegetables	Canned vegetables	Canned snap beans	2019	0.33
Vegetables	Canned vegetables	Canned cabbage (sauerkraut)	2022	0.06
Vegetables	Canned vegetables	Canned carrots	2019	0.27
Vegetables	Canned vegetables	Canned sweet corn	2019	0.22
Vegetables	Canned vegetables	Canned cucumbers (pickles)	2022	0.04
Vegetables	Canned vegetables	Canned green peas	2019	0.08
Vegetables	Canned vegetables	Canned mushrooms	2022	0.06
Vegetables	Canned vegetables	Canned chile peppers	2022	0.20
Vegetables	Canned vegetables	Canned potatoes	2022	0.09
Vegetables	Canned vegetables	Canned tomatoes	2022	6.10
Vegetables	Canned vegetables	Other canned vegetables	2022	0.51

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Vegetables	*Canned vegetables[6]*	*TOTAL*		*7.96*
Vegetables	Frozen vegetables	Frozen asparagus	2019	0.01
Vegetables	Frozen vegetables	Frozen snap beans	2019	0.32
Vegetables	Frozen vegetables	Frozen broccoli	2022	0.22
Vegetables	Frozen vegetables	Frozen carrots	2019	0.31
Vegetables	Frozen vegetables	Frozen cauliflower	2022	0.14
Vegetables	Frozen vegetables	Frozen sweet corn	2019	0.55
Vegetables	Frozen vegetables	Frozen green peas	2019	0.21
Vegetables	Frozen vegetables	Frozen lima beans	2019	0.05
Vegetables	Frozen vegetables	Frozen potatoes	2022	4.01
Vegetables	Frozen vegetables	Frozen spinach	2019	0.14
Vegetables	Frozen vegetables	Miscellaneous frozen vegetables	2022	0.88
Vegetables	*Frozen vegetables[7]*	*TOTAL*		*6.84*
Vegetables	Total dehydrated vegetables	Dehydrated onions	2022	0.01
Vegetables	Total dehydrated vegetables	Dehydrated potatoes	2022	0.06
Vegetables	Total dehydrated vegetables	Potato chips and shoestring potatoes	2022	0.19
Vegetables	*Total dehydrated vegetables*	*TOTAL*		*0.26*

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[6] USDA's estimates for canned vegetables were discontinued in 2011.

[7] USDA's estimates for frozen vegetables were discontinued in 2015.

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Vegetables	Legumes—dry peas and lentils	Dry peas and lentils	2022	0.33
Vegetables	*Legumes—dry peas and lentils*	*TOTAL*		*0.33*
Vegetables	Legumes—dry edible beans	Dry black beans	2022	0.14
Vegetables	Legumes—dry edible beans	Dry great northern beans	2022	0.01
Vegetables	Legumes—dry edible beans	Dry lima beans	2022	0.01
Vegetables	Legumes—dry edible beans	Dry navy beans	2022	0.05
Vegetables	Legumes—dry edible beans	Dry pinto beans	2022	0.22
Vegetables	Legumes—dry edible beans	Dry red kidney beans	2022	0.05
Vegetables	Legumes—dry edible beans	Other dry beans	2022	0.16
Vegetables	*Legumes—dry edible beans*	*TOTAL*		*0.64*
Vegetables	**TOTAL PROCESSED VEGETABLES**	**TOTAL**		**16.04**
ADDED SUGAR AND SWEETENERS				
Sugar	Refined cane and beet sugar	Refined cane and beet sugar	2023	20.70
Sugar	Total honey and syrup	Edible syrups	2023	0.10
Sugar	Total honey and syrup	Honey	2023	0.17
Sugar	Corn sweeteners	High-fructose corn syrup (HFCS)	2023	11.43
Sugar	Corn sweeteners	Glucose	2023	3.82
Sugar	Corn sweeteners	Dextrose	2023	0.80

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Latest LAFA year	Per capita consumer food waste[1] (lbs./capita)
Sugar	TOTAL ADDED SUGAR AND SWEETENERS	TOTAL		37.02
ADDED FATS AND OILS				
Fats	TOTAL ADDED FATS AND OILS	Added fats and oils[8]	*2010 and 2017*[9]	14.82

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[8] Added fats and oils includes butter (the only commodity updated in 2017), margarine, lard, edible beef tallow, shortening, salad and cooking oils, and other edible fats and oils.

[9] Within the added fats and oils category, only butter had been updated since 2010, with the most recent data year being from 2017. To generate a more updated estimate: Total Added Fats and Oils consumer weight (2010) – Butter consumer weight (2010) + Butter consumer weight (2017) = Total Added Fats and Oils consumer weight = Per capita consumer food available, then followed the same calculation methods as detailed in the LAFA methodology (Kantor et al., 1997; Muth et al., 2011) and within this report (section 2.1).

Appendix B: LAFA and NIQ Commodity Matching

Some commodities across the LAFA and NielsenIQ (NIQ) Syndicated Database Retail Measurement Service[10] datasets did not have a one-to-one relationship, were not available in NIQ, or did not have more detailed LAFA commodity information. This appendix notes how the commodities aligned between datasets and any necessary substitutions. All commodities not listed in this appendix are aligned between the datasets. Food waste values were not available for some NIQ commodities; those commodities use the average price data for multiple commodities. Numerical averages were used for those commodities. For example, NIQ has price data for canned clams, crab, lobster, mussels, oysters, scallops, and shrimp, but LAFA only has a food waste value for "canned fish and shellfish."

Table B-1: LAFA and NIQ commodity matching.

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Matching LAFA and NIQ commodities
GRAIN PRODUCTS			
Grain products	Wheat flour	White and whole wheat flour	Separate in NIQ. Averaged the NIQ price data for white flour and whole wheat flour to match LAFA.
Grain products	Wheat flour	Durum flour	Not available in NIQ. Used wheat flour in NIQ as a substitute.
Grain products	Corn products	Corn flour and meal	Separate in NIQ. Averaged the NIQ price data for corn flour and meal to match LAFA.
MEAT, FISH, EGGS, NUTS			
Meat, fish, eggs, nuts	Fresh and frozen fish	Fresh and frozen fish	Used the average of all seafood (fresh) and seafood (frozen), excluding shellfish in NIQ.
Meat, fish, eggs, nuts	Fresh and frozen fish	Fresh and frozen shellfish	Used the average of all seafood (fresh) and seafood (frozen), shellfish in NIQ.
Meat, fish, eggs, nuts	Canned fish and shellfish	Canned shellfish	Used the average of canned clams, crab, lobster, mussels, oysters, scallops, shrimp in NIQ.
Meat, fish, eggs, nuts	Canned fish and shellfish	Other canned fish	LAFA does not define what other canned fish includes. Used other canned seafood in NIQ as a substitute.

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[10] NIQ is not responsible for and was not involved in analyzing and preparing the results reported herein or in developing, reviewing, or confirming the research approaches used to develop this report.

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Matching LAFA and NIQ commodities
Meat, fish, eggs, nuts	Cured fish	Cured fish	LAFA does not define what cured fish includes. Used average of all smoked seafood in NIQ as a substitute.
Meat, fish, eggs, nuts	Tree nuts	Other tree nuts	LAFA does not define what other tree nuts include. Used average of almonds, Brazil nuts, and cashews in NIQ.
FRUIT			
Fruit	Fresh citrus	Fresh tangerines and tangelos	Separate in NIQ. Averaged the NIQ price data for fresh tangerines and tangelos to match LAFA.
Fruit	Fresh noncitrus	Fresh peaches and nectarines	Separate in NIQ. Averaged the NIQ price data for fresh peaches and nectarines to match LAFA.
Fruit	Fresh noncitrus	Fresh plums and prunes	Separate in NIQ. Averaged the NIQ price data for fresh plums and prunes to match LAFA.
Fruit	Canned fruit	Canned apples and applesauce	Separate in NIQ. Averaged the NIQ price data for canned apples and applesauce to match LAFA.
Fruit	Canned fruit	Canned sweet cherries	NIQ does not disaggregate sweet vs. tart. Used canned cherries as a substitute.
Fruit	Canned fruit	Canned tart cherries	NIQ does not disaggregate sweet vs. tart. Used canned cherries as a substitute.
Fruit	Canned fruit	Canned plums and prunes	Separate in NIQ. Averaged the NIQ price data for plums and prunes to match LAFA.
Fruit	Frozen berries	Other frozen berries	LAFA does not define what other frozen berries includes. Used average of remaining berries and cranberries in NIQ.
Fruit	Frozen other fruit	Frozen sweet cherries	NIQ does not disaggregate sweet vs. tart. Used frozen cherries as a substitute.
Fruit	Frozen other fruit	Frozen tart cherries	NIQ does not disaggregate sweet vs. tart. Used frozen cherries as a substitute.

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Matching LAFA and NIQ commodities
Fruit	Frozen other fruit	Frozen plums and prunes	NIQ only has plums. Used plums as substitute.
Fruit	Citrus juice	Lime juice	No price data available. Used limeade as a substitute.
DAIRY			
Dairy	All flavored milk	Whole flavored milk	LAFA does not define what whole flavored milk includes. Used average of chocolate, strawberry, vanilla in NIQ.
Dairy	All flavored milk	Lower fat flavored milk	LAFA does not define what lower fat flavored milk includes. Used average of reduced fat chocolate, strawberry, vanilla in NIQ.
Dairy	Miscellaneous fluid milk	Miscellaneous fluid milk	LAFA does not define what miscellaneous fluid milk includes. Used average of fat free, remaining milk, cream, and half and half[11] in NIQ.
Dairy	All American cheese	Cheddar cheese	Average of cheddar and cheddar blends
Dairy	All Italian cheese	Other Italian cheese	Average of Italian, Italian blends, parmesan, parmesan + Romano blends, provolone, ricotta
Dairy	Total miscellaneous cheese	Brick cheese	LAFA does not define what brick cheese includes. Used average of Bricks/Chunks segment in NIQ.
Dairy	Total miscellaneous cheese	Other miscellaneous cheese	LAFA does not define what other miscellaneous cheese includes. Used average of all other cheeses in NIQ not captured above.
Dairy	Total cottage cheese	Low-fat cottage cheese	Used reduced fat cottage cheese as a substitute.

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[11] Although "miscellaneous fluid milk" does not detail the specific food commodities included in this grouping, other commodities in this category are qualified by the "dairy share of" the specific commodity (e.g., buttermilk). NIQ does not include this specificity or breakdown, and since this report's methodology includes the closest matches of products in the two data series, products like cream and half and half that are part dairy and part fat are included in the price calculations for this sub-commodity as best estimates.

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Matching LAFA and NIQ commodities
Dairy	Frozen dairy products	Frozen yogurt, sherbet, and other miscellaneous frozen products	Used average of frozen yogurt, sherbet, sorbet, gelato, frozen custard, nondairy in NIQ.
Dairy	All evaporated condensed milk	Evaporated and condensed canned whole milk	Used total evaporated milk as substitute.
Dairy	All evaporated condensed milk	Evaporated and condensed bulk whole milk	Used total evaporated milk as substitute.
Dairy	All evaporated condensed milk	Evaporated and condensed bulk and canned skim milk	Used total evaporated milk as substitute.
Dairy	Dry milk products	Dry buttermilk	Not available in NIQ. Used powdered buttermilk as a substitute.
VEGETABLES			
Vegetables	Fresh vegetables	Fresh escarole and endive	Separate in NIQ. Averaged the NIQ price data for escarole and endive to match LAFA.
Vegetables	Canned vegetables	Canned snap beans	Called green beans in NIQ
Vegetables	Canned vegetables	Other canned vegetables	LAFA does not define what other canned vegetables includes. Used canned mixed vegetables in NIQ.
Vegetables	Frozen vegetables	Frozen snap beans	Called green beans in NIQ
Vegetables	Frozen vegetables	Miscellaneous frozen vegetables	LAFA does not define what miscellaneous frozen vegetables includes. Used frozen mixed vegetables in NIQ.
Vegetables	Total dehydrated vegetables	Dehydrated potatoes	Not available in NIQ. Used dried remaining vegetables in NIQ as a substitute.

LAFA commodity	LAFA sub-commodity 1	LAFA sub-commodity 2	Matching LAFA and NIQ commodities
ADDED SUGAR AND SWEETENERS			
Sugar	Refined cane and beet sugar	Refined cane and beet sugar	Not available in NIQ. Used granulated white sugar in NIQ as a substitute.
Sugar	Total honey and syrup	Edible syrups	LAFA does not define what edible syrups include. Used average of grocery, breakfast syrups and grocery, dessert syrup in NIQ as a substitute.
Sugar	Corn sweeteners	Glucose	Not available in NIQ. Used sugar and sweeteners and sugar in NIQ as a substitute.
Sugar	Corn sweeteners	Dextrose	Not available in NIQ. Used corn syrup in NIQ as a substitute.
ADDED FATS AND OILS			
Fats	**TOTAL ADDED FATS AND OILS**	**Added fats and oils**	**Used all oils, butter, margarine spreads, and substitutes in NIQ.**

While Figure 1 in this report compares the commodity categories by absolute weight, some foods and food categories are naturally lighter or heavier. Commodities can also be compared by the percentage of how much is wasted from the edible food available. This was calculated by dividing the per capita consumer food waste value of each commodity category by the per capita edible food available (Table 1 in this report). Like Figure 1 in this report, Figure B-1 shows the per capita cost of consumer food waste for each commodity in order, from highest to lowest. While meat does represent the greatest savings potential based on total per capita cost, the fish and seafood and added sugar and sweeteners categories have the highest percentages of food wasted. Additionally, processed fruit and tree nuts and peanuts are the two commodity categories with the lowest percent per capita of food waste.
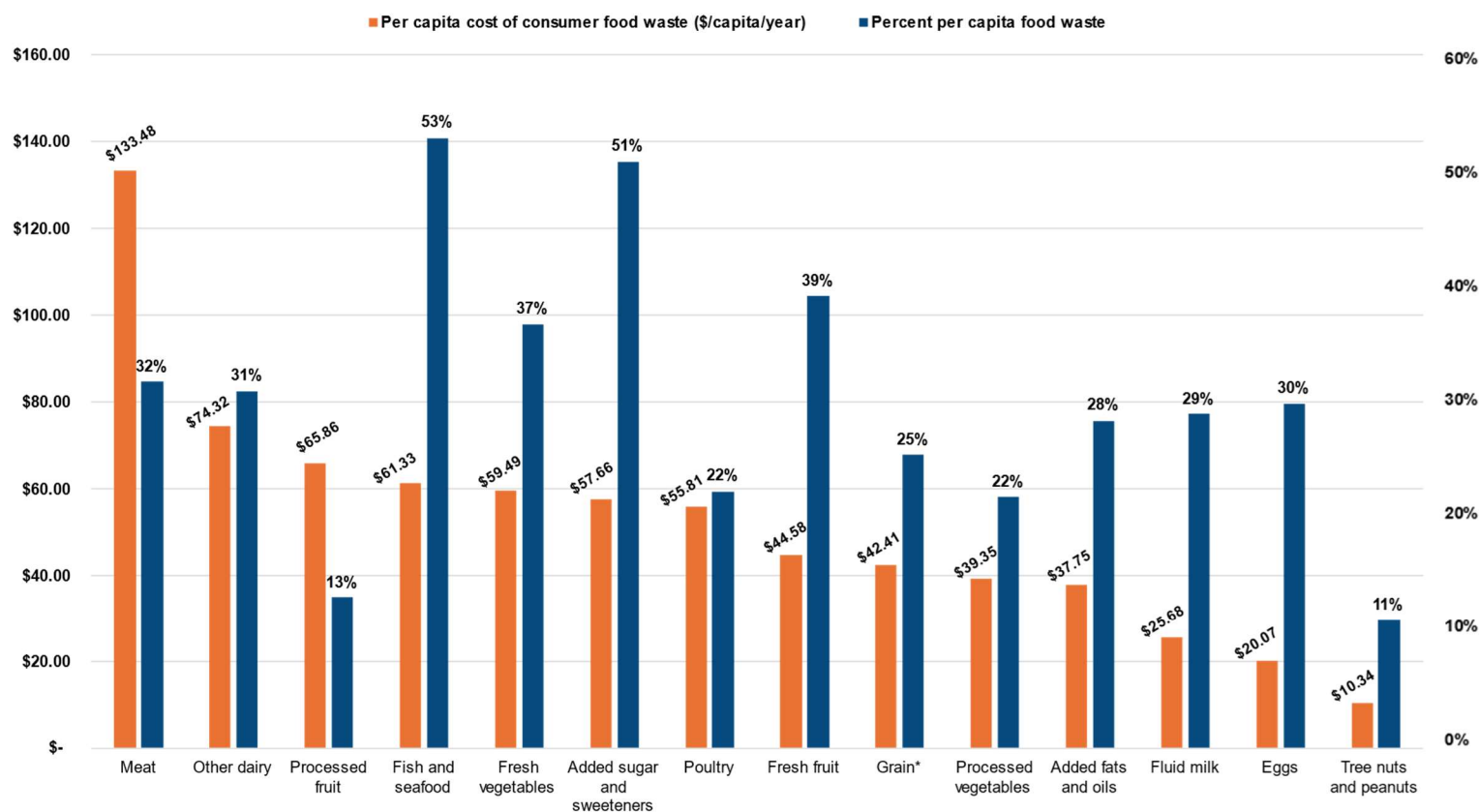

Figure B-1: Per capita cost of consumer food waste and percent per capita food waste, by commodity group.

Appendix C: Additional Estimates of U.S. Food Commodity Prices

To determine the cost of consumer food waste, a literature review was conducted to identify publicly available commodity price data. Four sources were identified (in addition to the NIQ database, which is not publicly available) and are summarized below.

Table C-1: Summary of available food commodity price data.

Data source	Food commodity data available by source
NielsenIQ (NIQ) Syndicated Database Retail Measurement Service (2024)	The NIQ Syndicated Database Retail Measurement Service collects data for 50 million products from nearly 900,000 stores globally each month. NIQ offers 2023 dollar per pound price estimates for most of the 200-plus individual LAFA commodities.
U.S. Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) (2024)	Two CPI datasets include the average price data and the CPI for all urban consumers. Average price data are available for select food items, which are primarily reported in price (in dollars) per pound. CPI for all urban consumers is a measure of the average change over time in the prices paid by urban consumers for select consumer goods and services, including food and beverage categories.
Food and Agriculture Organization (FAO) Food Price Indices (2025)	The FAO data breaks out by five aggregated categories: meat, dairy, cereals, oils, and sugar. The FAO Food Price Indices provide varying levels of disaggregation of food price data for specific commodities.
U.S. Department of Agriculture (USDA) Agricultural Marketing Service Market News: National Weekly Retail Activity Reports (2025)	The USDA Agricultural Marketing Service Market News provides National Weekly Retail Activity Reports, which include the advertised retail pricing information for hundreds of commodities at major retail supermarket outlets each week. USDA gathers this information from publicly available sources, including retailer websites.
USDA Economic Research Service Fruit and Vegetable Prices (2025b)	The USDA estimates average prices for more than 150 commonly consumed fresh and processed fruits and vegetables. The USDA data are not available for other commodity categories (e.g., meats, grains, fats). USDA price data are available for dairy products at https://www.ers.usda.gov/data-products/price-spreads-from-farm-to-consumer and meat products at https://www.ers.usda.gov/data-products/meat-price-spreads.

Appendix D: Literature Review Methodology

This appendix presents the methodology that was used to identify, screen, and manage literature sources to estimate the cost of food waste to American consumers. The literature review included "grey literature" publications from federal, state, and local government; other publicly available datasets; and peer-reviewed literature from academic journals.

Peer-Reviewed Literature Search Strategy

Peer-reviewed literature was identified by searching selected publication databases using the keywords and Boolean logic defined in Table D-1. Searches were conducted using AGRICOLA, AGRIS, Google Scholar, and MDPI. The literature review keyword strings were combined with "AND" to connect food waste and cost. Search results were limited to publications written in English. EPA processed the titles and abstracts of publications the literature search returned to eliminate duplicates, then screened the publications to identify a subset of "key" sources that met criteria for relevance and usefulness. Key sources were "tagged" to pre-defined topics to help authors identify the most relevant sources for topics covered in this report.

Table D-1: Literature Review Keywords

Category	Example keywords
Food waste identification	Food AND ("waste*" OR "loss" OR "disposal" OR "FLW" OR "scraps")
Cost	("cost" OR "consumer cost" OR "economic impact" OR "household" OR "per capita" OR "retail and consumer")

EPA screened and prioritized references by using ICF's Document Classification and Topic Extraction Resource (DoCTER) software for topic extraction, also referred to as clustering. The titles and abstracts from all searches were run through DoCTER's topic extraction function. Each study was assigned to a single cluster based on text similarities in titles and abstracts. Clusters were prioritized or eliminated for screening based on the relevance of the keywords identified. For each search, EPA saved all references using Zotero, a tool that manages bibliographic data and related research materials, such as PDF and ePUB files.

Grey Literature Search Strategy

EPA supplemented the peer-reviewed literature search with relevant grey literature from targeted Google and domain searches for selected government or nongovernmental organizations. The titles and URLs of potential sources identified during the searches were compiled in an Excel file for subsequent screening.

Literature Review Results

This literature search identified 232 initial peer-reviewed sources and prioritized 102 sources using DoCTER's topic extraction function to identify clusters of relevant keywords. To further refine the list of key sources, article titles and abstracts were screened for relevance to this report, including relevant geographic coverage and information about per capita cost estimates of consumer food waste. Table 3 in the main report summarizes information found in four key sources (in addition to this report and the 2014 USDA report) regarding the cost of consumer food waste. For the ReFED source, an earlier ReFED report was found during the literature search and exchanged for the most recent when it was released in February 2025. These sources, as well as the key grey literature and additional key sources identified in supplemental targeted literature searches, served as the primary corpus of literature that was used to synthesize information and develop this report. While the literature search initially returned results for consumer- and household-level estimates, results were furthered narrowed to consumer-level estimates since these provide the best context for this study's results.

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