

Changes in Fresh Fruit and Vegetable Marketing

Over the past few decades, several factors have likely affected the mix of fresh fruits and fresh vegetables that a typical American household tends to buy at retail.

Supermarkets are stocking a greater quantity and variety of fresh fruits and fresh vegetables. Kaufman et al. report that supermarkets expanded their produce departments from 4,817 to 5,140 square feet, on average, between 1987 and 1997. Added space helped them increase the number of stock-keeping units (SKUs) from 173 to 335 over the same 10-year period. Additional SKUs included ready-to-eat fresh vegetables such as bagged baby carrots, salads, and broccoli florets. The growth in SKUs was also driven by the year-round supply of fresh items that had been available only seasonally. Significant changes in grower-shipper operations have allowed these companies to supply grapes and other perishables year round (Kaufman et al.; Wilson and Thompson).

Data on food availability show not only an increased supply of fresh fruits and fresh vegetables, but also changes in the mix of items within each commodity group. For example, between 1982 and 2003, the supply of fresh vegetables per capita increased from 150.9 pounds to 199.8 pounds (note: figures do not include melons). As shown in table 1, some traditional varieties also lost share to specialty items. For example, although the amount of head lettuce available for consumption did not increase, there were increases in the supply of asparagus (0.6 lb), bell peppers (3.9 lb), broccoli (3.5 lb), and romaine lettuce (about 7.9 lb).²

Table 1
Quantities available for consumption (per capita) have increased for many types of fresh vegetables and fresh fruits, 1982 versus 2003¹

Vegetable	1982	2003	Fruit	1982	2003
	<i>Pounds</i>			<i>Pounds</i>	
Asparagus	0.4	1.0	Apples	17.7	17.1
Bell peppers ²	3.0	6.9	Cantaloupe	7.7	10.8
Broccoli	2.0	5.5	Cherries	0.5	1.0
Cabbage	8.6	7.5	Grapefruit	7.2	4.1
Carrots	6.6	8.8	Grapes	5.8	7.7
Cauliflower	1.3	1.6	Honeydew melon	1.8	2.2
Celery ²	7.4	6.3	Kiwifruit	0.1	0.4
Corn on the cob	6.0	9.5	Lemons	2.1	3.3
Cucumbers	4.2	6.1	Oranges ³	13.8	14.6
Head lettuce	24.9	22.2	Peaches & nectarines	5.3	5.2
Romaine lettuce	3.3*	11.2	Pears	2.9	3.1
Mushrooms	1.4	2.6	Fresh prunes & plums	1.1	1.2
Onions ²	12.2	19.5	Strawberries	2.4	5.3
Potatoes	47.1	47.2	Watermelon	12.5	13.6
Sweet potatoes ²	5.4	4.7			
Tomatoes	12.9	19.5			

*Now a major item, USDA did not include romaine lettuce in the data series until 1985.

¹ Figures include quantities marketed for both at-home and away-from-home consumption.

² Dual-use crops (move into both fresh and processing markets). Per capita data do not distinguish between uses.

³ Includes tangerines, temples, tangelos, and mandarins.

Source: USDA/Economic Research Service. Food consumption (per capita) data system: <http://www.ers.usda.gov/data/foodconsumption/>

²The growth in the supply of romaine lettuce is a comparison of 1985 and 2003. Data on food availability did not include romaine lettuce prior to 1985.

By contrast, other trends may have reduced the quantities of fresh fruits and fresh vegetables bought by a representative household for at-home consumption. Eating away from home is one notable phenomenon. Restaurant foods account for a growing share of the typical American's total caloric intake, increasing from around 18 percent in the late 1970s to about 32 percent in the late 1990s (Guthrie et al.). Decreasing household size is another of these phenomena. The average household now contains 2.5 people, compared with 2.8 people in 1980 (Cromartie).

What effects have these changes in shopping and eating habits had on the mix of foods that a typical household tends to buy at retail? To answer this question, I review how consumer baskets are created, and then update the consumer baskets for fresh fruits and fresh vegetables according to what households have been buying more recently. I also compare estimates of farm contribution based on the existing baskets with estimates based on the updated baskets.³

Consumer Baskets Reflect What Households Buy at Retail

Farm share is estimated for a basket of foods that is representative of what a typical American household buys at retail over 1 year. To identify the consumer baskets behind the existing data series, ERS researchers used data collected by the Bureau of Labor Statistics (BLS) to maintain the Consumer Price Index (CPI).

For fresh vegetables, for example, BLS data were used to determine how much money a representative household spent on the commodity group in 1982-84. These expenditures were then allocated over a group of fresh vegetables selected for inclusion in the consumer basket, such as potatoes and iceberg lettuce. Other types of fresh vegetables, including leafy lettuces, were excluded from the basket. Expenditures on a food included in the basket account for money spent by the representative household on that particular food as well as spending for similar omitted foods. For example, spending for iceberg lettuce exceeds what households spent on iceberg lettuce, on average, because those expenditures also represent spending on omitted leafy lettuces. Finally, given expenditures, the quantities in the consumer basket were estimated as the ratio of expenditures to 1982-84 retail prices.

The 1982-84 consumer baskets for fresh vegetables and fresh fruits contain eight and nine items, respectively (table 2). The existing consumer basket for fresh vegetables contains potatoes, sweet potatoes, head lettuce, tomatoes, carrots, celery, onions, and corn on the cob. The basket for fresh fruits contains apples, oranges, lemons, grapefruits, pears, strawberries, peaches, cantaloupes, and grapes.

These consumer baskets are constructed to monitor marketing costs, not international trade flows. On the one hand, we exclude foods derived from agricultural commodities that are almost entirely imported. For example, bananas have been excluded from the consumer basket for fresh fruits. On the other hand, grapes, strawberries, and cantaloupes have been included in proportions reflective of what American households tend to have bought at

³Farm contribution has been estimated for consumer baskets sold at retail as long ago as 1913. At various points in time, ERS researchers have revised the contents of the consumer baskets as well as the quantities in the corresponding agricultural baskets.

Table 2

Consumer baskets behind the updated series (1999-2003) contain a greater variety of foods than baskets behind the existing data series (1982-84)

Vegetables	Quantity (1982-84)	Quantity (1999-2003)	Fruit	Quantity (1982-84)	Quantity (1999-2003)
	<i>Pounds</i>			<i>Pounds</i>	
Asparagus	--	2.00	Apples	41.7	34.07
Bell peppers	--	6.47	Cantaloupe	8.8	11.25
Broccoli	--	6.71	Cherries	--	2.11
Cabbage	--	7.51	Grapefruit	13	15.08
Carrots	20.2	21.11	Grapes	14.7	15.90
Cauliflower	--	2.19	Honeydew melon	--	1.81
Celery	20.2	5.34	Kiwifruit	--	0.91
Corn on the cob	14.9	4.38	Lemons	6.9	6.02
Cucumber	--	6.80	Oranges	39.8	25.02
Iceberg lettuce	30.3	15.37	Peaches	11.1	8.87
Agaricus mushrooms	--	3.11	Pears	5	3.87
Onions	49.2	24.22	Plums	--	2.47
Potatoes	81.4	82.92	Strawberries	3.4	8.27
Romaine lettuce	--	7.96	Watermelon	--	19.75
Sweet potatoes	8.5	4.67			
Tomatoes	25.9	20.90			

-- = This item is not included in the existing (1982-84) market basket data series.

Source: USDA/Economic Research Service.

retail over 1 year. Though a significant quantity of each commodity is imported, domestic production is still sufficiently large that American farmers could produce the commodities used by marketers to supply the foods in the consumer baskets.

The amount of a food in a consumer basket may exceed what typical households are likely to have bought, on average. This result, too, stems from basket construction. As noted earlier, expenditures on foods included in a basket account for expenditures not only on those items but also on excluded foods. For example, as table 2 shows, the 1982-84 consumer basket for fresh vegetables contains 49.2 pounds of onions. According to table 1, only 12.2 pounds of fresh onion were available for consumption per person in 1982, or about 34.16 pounds per household, since the average household contained about 2.8 people at that time (Cromartie).⁴

⁴The discrepancy is even greater than it may at first appear. Food availability figures include foods that are marketed for both at-home and away-from-home consumption. Undoubtedly, some of the 12.2 pounds of fresh onions available per person were marketed for away-from-home consumption, and were therefore not available for marketing for at-home consumption.