

Trends in U.S. Fruit Consumption Relative to Recommendations in the *Dietary Guidelines for Americans*

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What Is the Issue?

The *Dietary Guidelines for Americans, 2020–25*, recommend choosing nutrient-dense foods, including fruit, to “Make Every Bite Count.” The recommendation for a moderately active, 45-year-old female of reference height and weight is 2 cup equivalents of fruit per day, and for a moderately active, 16-year-old male of reference height and weight is 2.5 cup equivalents per day. However, despite the guideline recommendations, the average individual consumes less fruit than a typical person did 20 years ago. USDA, Economic Research Service (ERS) data reveal that U.S. per capita total fruit consumption, including fresh, frozen, canned, dried, and 100 percent juice products, has decreased about 20 percent on a cup-equivalent basis since peaking in the late 1990s and early 2000s.

Using data collected between January 2005 and March 2020 through the National Health and Nutrition Examination Survey (NHANES), this report compares total fruit consumption by U.S. children and adults to the recommendations in the *Dietary Guidelines for Americans*. The report looks at the share of individuals who consumes at least 100 percent of the recommended amount of fruit as well as the share who consumes below 25 percent of the recommendations; i.e., those who meet the recommendations and those who deviate furthest from it. The authors also used data on adults to estimate a statistical model that predicts whether someone falls into either of these two groups.

What Did the Study Find?

A stable portion of the population continues to satisfy total fruit recommendations in the *Dietary Guidelines for Americans*. With respect to these consumers, the authors found that:

- About 23 percent of all U.S. children and 15 percent of adults have been consuming the recommended amount of total fruit, including fruit juice, since at least the mid-2000s. Some mild fluctuation in the exact share was noted, but no evidence of a downward trend was found.



ERS is a primary source of economic research and analysis from the U.S. Department of Agriculture, providing timely information on economic and policy issues related to agriculture, food, the environment, and rural America.

- Observed fruit intake among individuals who satisfied recommendations in the guidelines was consistent with consuming a small apple, a large orange, an 8-ounce glass of 100 percent juice, or a similar-sized portion of fruit on two or more occasions on most days.
- Most of these individuals have been drinking less fruit juice than consumers who satisfied recommendations 20 years ago, but they were also eating more whole and cut fruit.

On the other end of the U.S. fruit consumption spectrum is a larger and growing segment of the population that regularly consumes little or no fruit. With respect to these consumers, the authors found that:

- The share of U.S. children who habitually consumed below a quarter of the recommendations for total fruit increased by 4.8 percentage points, from 24 percent in 2005–08 to 28.8 percent in 2017–20.
- The share of U.S. adults who habitually consumed below a quarter of the recommended amount of fruit increased by 6.9 percentage points, from 33.4 percent in 2005–08 to 40.3 percent in 2017–20.
- Fruit intake among individuals in this group was consistent with consuming a small amount of fruit, possibly as an ingredient in another food, such as a blueberry muffin or cinnamon raisin bagel.
- The evidence suggests that, on most days, these individuals possibly consumed little or no fruit of any kind—juice or whole and cut fruit.

Using data on adults, estimates from statistical models revealed little association between either household income or fruit prices and the likelihood that someone met the recommendations or consumed less than 25 percent of them. Factors more closely associated with falling into one of these two groups included behaviors such as smoking, exercising, and awareness of MyPlate (USDA's official symbol of the five food groups), which indicate a consumer's level of concern for health as well as knowledge of what constitutes a healthy diet.

How Was the Study Conducted?

U.S. fruit consumption trends were investigated using NHANES data collected from January 2005 through March 2020. A method developed by the National Cancer Institute (NCI), an agency within the U.S. Department of Health and Human Services (HHS), was used to simulate the distribution of total fruit intake relative to recommendations in the guidelines during each of four periods: 2005–08, 2009–12, 2013–16, and 2017–March 2020. Results include the share of the U.S. population that fully met total fruit consumption recommendations during each period as well as the share that satisfied below 25 percent, below 50 percent, below 75 percent, and below 100 percent of recommendations. The authors used data on adults (individuals aged more than 19 years) to estimate a statistical model and test research hypotheses.