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9. INTAKE OF FRUITS AND VEGETABLES

9.1. INTRODUCTION

The American food supply is generally considered to be one of the safest in the world. Nevertheless, fruits and vegetables may become contaminated with toxic chemicals by several different pathways. Ambient pollutants from the air may be deposited on or absorbed by the plants or dissolved in rainfall or irrigation waters that contact the plants. Pollutants may also be absorbed through plant roots from contaminated soil and ground water. The addition of pesticides, soil additives, and fertilizers may also result in contamination of fruits and vegetables. To assess exposure through this pathway, information on fruit and vegetable ingestion rates is needed.

A variety of terms may be used to define intake of fruits and vegetables (e.g., consumer-only intake, per capita intake, total fruit intake, total vegetable intake, as-consumed intake, dry-weight intake). These terms are defined below to assist the reader in interpreting and using the intake rates that are appropriate for the exposure scenario being assessed.

Consumer-only intake is defined as the quantity of fruits and vegetables consumed by individuals during the survey period. These data are generated by averaging intake across only the individuals in the survey who consumed these food items. Per capita intake rates are generated by averaging consumer-only intakes over the entire population (including those individuals that reported no intake). In general, per capita intake rates are appropriate for use in exposure assessments for which average dose estimates are of interest because they represent both individuals who ate the foods during the survey period and individuals who may eat the food items at some time, but did not consume them during the survey period. Per capita intake, therefore, represents an average across the entire population of interest, but does so at the expense of underestimating consumption for the subset of the population that consumed the food in question. Total fruit intake refers to the sum of all fruits consumed in a day including canned, dried, frozen, and fresh fruits. Likewise, total vegetable intake refers to the sum of all vegetables consumed in a day including canned, dried, frozen, and fresh vegetables.

Intake rates may be expressed on the basis of the as-consumed weight (e.g., cooked or prepared) or on the uncooked or unprepared weight. As-consumed intake rates are based on the weight of the food in the form that it is consumed and should be used in assessments where the basis for the contaminant concentrations in foods is also indexed to the as-consumed weight. Some of the food ingestion values provided in this chapter are expressed as as-consumed intake rates because this is the fashion in which data were reported by survey respondents. Others are provided as uncooked weights based on analyses of survey data that account for weight changes that occur during cooking. This is of importance because concentration data to be used in the dose equation are often measured in uncooked food samples. It should be recognized that cooking can either increase or decrease food weight. Similarly, cooking can increase the mass of contaminant in food (due to formation reactions, or absorption from cooking oils or water) or decrease the mass of contaminant in food (due to vaporization, fat loss, or leaching). The combined effects of changes in weight and changes in contaminant mass can result in either an increase or decrease in contaminant concentration in cooked food. Therefore, if the as-consumed ingestion rate and the uncooked concentration are used in the dose equation, dose may be under-estimated or over-estimated. It is important for the assessor to be aware of these issues and choose intake rate data that best match the concentration data that are being used. For more information on cooking losses and conversions necessary to account for such losses, refer to Chapter 13 of this handbook.

Sometimes contaminant concentrations in food are reported on a dry-weight basis. When these data are used in an exposure assessment, it is recommended that dry-weight intake rates also be used. Dry-weight food concentrations and intake rates are based on the weight of the food consumed after the moisture content has been removed. For information on converting the intake rates presented in this chapter to dry-weight intake rates, refer to Section 9.4.

The purpose of this chapter is to provide intake data for fruits and vegetables. The recommendations for fruit and vegetable ingestion rates are provided in the next section, along with a summary of the confidence ratings for these recommendations. The recommended values are based on the key study identified by U.S. Environmental Protection Agency (EPA) for this factor. Following the recommendations, the key study on fruit and vegetable ingestion is summarized. Relevant data on ingestion of fruits and vegetables are also provided. These data are presented to provide the reader with added perspective on the current state-of-knowledge pertaining to ingestion of fruits and vegetables.

9.2. RECOMMENDATIONS

Table 9-1 presents a summary of the recommended values for per capita and consumer-only intake of fruits and vegetables. Table 9-2 provides confidence ratings for the fruit and vegetable intake recommendations.

The U.S. EPA analysis of data from the 2003−2006 National Health and Nutrition Examination Survey (NHANES) was used in selecting recommended intake rates for the general population. The U.S. EPA analysis was conducted using childhood age groups that differed slightly from U.S. EPA's *Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants* (U.S. EPA, 2005). However, for the purposes of the recommendations presented here, childhood data were placed in the standardized age categories closest to those used in the analysis.

The NHANES data on which the recommendations are based are short-term survey data and may not necessarily reflect the long-term distribution of average daily intake rates. However, since broad categories of food (i.e., total fruits and total vegetables), are eaten on a daily basis throughout the year with minimal seasonality, the short-term distribution may be a reasonable approximation of the long-term distribution, although it will display somewhat increased variability. This implies that the upper percentiles shown here may tend to overestimate the corresponding percentiles of the true long-term distribution. In general, the recommended values based on U.S. EPA's analysis of NHANES data represent the i.e., uncooked weight of the edible portion of fruits and vegetables.

Table 9-1. Recommended Values for Intake of Fruits and Vegetables, Edible Portion, Uncooked[a]

Age Group (years)	Per Capita		Consumers Only		Multiple Percentiles	Source
	Mean	95th Percentile	Mean	95th Percentile		
	g/kg-day	g/kg-day	g/kg-day	g/kg-day		
Total Fruits						
Birth to 1	6.2	23.0[b]	10.1	25.8[b]	See Table 9-3 and Table 9-4	U.S. EPA Analysis of NHANES 2003−2006
1 to <2	7.8	21.3[b]	8.1	21.4[b]		
2 to <3	7.8	21.3[b]	8.1	21.4[b]		
3 to <6	4.6	14.9	4.7	15.1		
6 to <11	2.3	8.7	2.5	9.2		
11 to <16	0.9	3.5	1.1	3.8		
16 to <21	0.9	3.5	1.1	3.8		
21 to <50	0.9	3.7	1.1	3.8		
≥50	1.4	4.4	1.5	4.6		
Total Vegetables						
Birth to 1	5.0	16.2[b]	6.8	18.1[b]	See Table 9-3 and Table 9-4	U.S. EPA Analysis of NHANES 2003−2006
1 to <2	6.7	15.6[b]	6.7	15.6[b]		
2 to <3	6.7	15.6[b]	6.7	15.6[b]		
3 to <6	5.4	13.4	5.4	13.4		
6 to <11	3.7	10.4	3.7	10.4		
11 to <16	2.3	5.5	2.3	5.5		
16 to <21	2.3	5.5	2.3	5.5		
21 to <50	2.5	5.9	2.5	5.9		
≥50	2.6	6.1	2.6	6.1		
Individual Fruits and Vegetables—See Table 9-5 and Table 9-6						

[a] Analysis was conducted using slightly different childhood age groups than those recommended in *Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants* (U.S. EPA, 2005). Data were placed in the standardized age categories closest to those used in the analysis.

[b] Estimates are less statistically reliable based on guidance published in the *Joint Policy on Variance Estimation and Statistical Reporting Standards on NHANES III and CSFII Reports: NHIS/NCHS Analytical Working Group Recommendations* (NCHS, 1993).

Table 9-2. Confidence in Recommendations for Intake of Fruits and Vegetables

General Assessment Factors	Rationale	Rating
Soundness		High for total fruits and vegetables, low for some individual fruits and vegetables with small sample size
Adequacy of Approach	The survey methodology and data analysis were adequate. The survey sampled more than 16,000 individuals. However, sample sizes for some individual fruits and vegetables for some of the age groups are small. An analysis of primary data was conducted.	
Minimal (or Defined) Bias	No physical measurements were taken. The method relied on recent recall of fruits and vegetables eaten.	
Applicability and Utility		High
Exposure Factor of Interest	The key study was directly relevant to fruit and vegetable intake.	
Representativeness	The data were demographically representative of the U.S. population (based on stratified random sample).	
Currency	Data were collected between 2003 and 2006.	
Data Collection Period	Data were collected for two non-consecutive days.	
Clarity and Completeness		High
Accessibility	The NHANES data are publicly available.	
Reproducibility	The methodology used was clearly described; enough information was included to reproduce the results.	
Quality Assurance	NHANES follows a strict QA/QC procedure. The U.S. EPA analysis has only been reviewed internally, but the methodology used has been peer reviewed in an analysis of previous data.	
Variability and Uncertainty		Medium to high for averages, low for long-term upper percentiles; low for individual fruits and vegetables
Variability in Population	Full distributions were provided for total fruits and total vegetables. Means were provided for individual fruits and vegetables.	
Uncertainty	Data collection was based on recall of consumption for a 2-day period; the accuracy of using these data to estimate long-term intake (especially at the upper percentiles) is uncertain. However, use of short-term data to estimate chronic ingestion can be assumed for broad categories of foods such as total fruits and total vegetables. Uncertainty is greater for individual fruits and vegetables.	
Evaluation and Review		Medium
Peer Review	The NCHS NHANES survey received a high level of peer review. The U.S. EPA analysis of these data has not been peer reviewed outside the Agency, but the methodology used has been peer reviewed in an analysis of previous data.	
Number and Agreement of Studies	There was one key study.	
Overall Rating		**Medium to High** confidence in the averages; **Low** for some individual fruits and vegetables with small sample size; **Low** confidence in the long-term upper percentiles

9.3. INTAKE STUDIES

9.3.1. Key Fruits and Vegetables Intake Study

9.3.1.1. *U.S. EPA Analysis of Consumption Data From 2003−2006 National Health and Nutrition Examination Survey (NHANES)*

The key source of recent information on consumption rates of fruits and vegetables is the U.S. Centers for Disease Control and Prevention's National Center for Health Statistics' (NCHS) NHANES. Data from NHANES 2003−2006 have been used by the U.S. EPA, Office of Pesticide Programs (OPP) to generate per capita and consumer-only intake rates for both individual fruits and vegetables and total fruits and vegetables.

NHANES is designed to assess the health and nutritional status of adults and children in the United States. In 1999, the survey became a continuous program that interviews a nationally representative sample of approximately 7,000 persons each year and examines a nationally representative sample of about 5,000 persons each year, located in counties across the country, 15 of which are visited each year. Data are released on a 2-year basis, thus, for example, the 2003 data are combined with the 2004 data to produce NHANES 2003−2004.

The dietary interview component of NHANES is called *What We Eat in Americ*a and is conducted by the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (DHHS). DHHS' NCHS is responsible for the sample design and data collection, and USDA's Food Surveys Research Group is responsible for the dietary data collection methodology, maintenance of the databases used to code and process the data, and data review and processing. Beginning in 2003, 2 non-consecutive days of 24-hour intake data were collected. The first day is collected in-person, and the second day is collected by telephone 3 to 10 days later. These data are collected using USDA's dietary data collection instrument, the Automated Multiple Pass Method. This method provides an efficient and accurate means of collecting intakes for large-scale national surveys. It is fully computerized and uses a 5-step interview. Details can be found at USDA's Agriculture Research Service (http://www.ars.usda.gov/ba/bhnrc/fsrg).

For NHANES 2003−2004, there were 12,761 persons selected; of these, 9,643 were considered respondents to the mobile examination center (MEC) examination and data collection. However, only 9,034 of the MEC respondents provided complete dietary intakes for Day 1. Furthermore, of those providing the Day 1 data, only 8,354 provided complete dietary intakes for Day 2.

For NHANES 2005−2006, there were 12,862 persons selected; of these, 9,950 were considered respondents to the MEC examination and data collection. However, only 9,349 of the MEC respondents provided complete dietary intakes for Day 1. Furthermore, of those providing the Day 1 data, only 8,429 provided complete dietary intakes for Day 2.

The 2003−2006 NHANES surveys are stratified, multistage probability samples of the civilian non-institutionalized U.S. population. The sampling frame was organized using 2000 U.S. population census estimates. NHANES oversamples low-income persons, adolescents 12 to 19 years, persons 60 years and older, African Americans, and Mexican Americans. Several sets of sampling weights are available for use with the intake data. By using appropriate weights, data for all four years of the surveys can be combined. Additional information on NHANES can be obtained at http://www.cdc.gov/nchs/nhanes.htm.

In 2010, U.S. EPA, OPP used NHANES 2003−2006 data to update the Food Commodity Intake Database (FCID) that was developed in earlier analyses of data from the USDA's Continuing Survey of Food Intake among Individuals (CSFII) (U.S. EPA, 2000; USDA, 2000) (see Section 9.3.2.4), NHANES data on the foods people reported eating were converted to the quantities of agricultural commodities eaten. "Agricultural commodity" is a term used by U.S. EPA to mean plant (or animal) parts consumed by humans as food; when such items are raw or unprocessed, they are referred to as "raw agricultural commodities." For example, an apple pie may contain the commodities apples, flour, fat, sugar, and spices. FCID contains approximately 558 unique commodity names and 8-digit codes. The FCID commodity names and codes were selected and defined by U.S. EPA and were based on the U.S. EPA Food Commodity Vocabulary (http://www.epa.gov/pesticides/foodfeed/).

Intake rates were generated for a variety of food items/groups based on the agricultural commodities included in the FCID. These intake rates represent intake of all forms of the product (e.g., both home produced and commercially produced) for individuals who provided data for 2 days of the survey. Note that if the person reported consuming food for only one day, their 2-day average would be half the amount reported for the one day of consumption. Individuals who did not provide information on body weight or for whom identifying information was unavailable were excluded from the analysis. Two-day average intake rates were calculated for all individuals in the database for each of the food items/groups. These average daily intake rates were divided by each

individual's reported body weight to generate intake rates in units of grams per kilogram of body weight per day (g/kg-day). The data were weighted according to the 4-year, 2-day sample weights provided in NHANES 2003−2006 to adjust the data for the sample population to reflect the national population.

Summary statistics were generated on a consumer-only and on a per capita basis. Summary statistics, including: number of observations, percentage of the population consuming the fruits or vegetables being analyzed, mean intake rate, and standard error of the mean intake rate were calculated for total fruits, total vegetables, and selected individual fruits and vegetables. Individual fruits and vegetables were selected to be consistent with Chapter 13, which was based on having at least 30 households reporting consumption for the particular fruit or vegetable. Percentiles of the intake rate distribution (i.e., 1st, 5th, 10th, 25th, 50th, 75th, 90th, 95th, 99th, and the maximum value) were also provided for total fruits and total vegetables. Data were provided for the following age groups: birth to 1 year, 1 to 2 years, 3 to 5 years, 6 to 12 years, 13 to 19 years, 20 to 49 years, and ≥50 years. Data for females 13 to 49 years were also provided. Because these data were developed for use in U.S. EPA's pesticide registration program, the childhood age groups used are slightly different than those recommended in U.S. EPA's *Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants* (U.S. EPA, 2005).

Table 9-3 presents per capita intake data for total fruits and total vegetables in g/kg-day; Table 9-4 provides consumer-only intake data for total fruits and total vegetables in g/kg-day. Table 9-5 provides per capita intake data for individual fruits and vegetables in g/kg-day, and Table 9-6 provides consumer-only intake data for individual fruits and vegetables in g/kg-day. In general, these data represent intake of the edible portions of uncooked foods.

The results are presented in units of g/kg-day. Thus, use of these data in calculating potential dose does not require the body-weight factor to be included in the denominator of the average daily dose (ADD) equation. It should be noted that converting these intake rates into units of g/day by multiplying by a single average body weight is inappropriate, because individual intake rates were indexed to the reported body weights of the survey respondents. Also, it should be noted that the distribution of average daily intake rates generated using short-term data (e.g., 2-day) does not necessarily reflect the long-term distribution of average daily intake rates. The distributions generated from short-term and long-term data will differ to the extent that each individual's intake varies from day to day; the distributions will be similar to the extent that individuals' intakes are constant from day to day. Day-to-day variation in intake among individuals will be high for fruits and vegetables that are highly seasonal and for fruits and vegetables that are eaten year-round, but that are not typically eaten every day. For these fruits and vegetables, the intake distribution generated from short-term data will not be a good reflection of the long-term distribution. On the other hand, for broad categories of foods (e.g., total fruits and total vegetables) that are eaten on a daily basis throughout the year, the short-term distribution may be a reasonable approximation of the true long-term distribution, although it will show somewhat more variability. In this chapter, distributions are provided only for broad categories of fruits and vegetables (i.e., total fruits and total vegetables). Because of the increased variability of the short-term distribution, the short-term upper percentiles shown here may overestimate the corresponding percentiles of the long-term distribution. For individual foods, only the mean, standard error, and percent consuming are provided.

An advantage of using the U.S. EPA's analysis of NHANES data is that it provides distributions of intake rates for various age groups of children and adults, normalized by body weight. The data set was designed to be representative of the U.S. population and includes four years of intake data combined. Another advantage is the currency of the data; the NHANES data are from 2003−2006. However, short-term dietary data may not accurately reflect long-term eating patterns and may under-represent infrequent consumers of a given food. This is particularly true for the tails (extremes) of the distribution of food intake. Because these are 2-day averages, consumption estimates at the upper end of the intake distribution may be underestimated if these consumption values are used to assess acute (i.e., short-term) exposures, also, the analysis was conducted using slightly different childhood age groups than those recommended in U.S. EPA's *Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants* (U.S. EPA, 2005). However, given the similarities in the age groups used, the data should provide suitable intake estimates for the age groups of interest.

9.3.2. Relevant Fruit and Vegetable Intake Studies

9.3.2.1. *U.S. Department of Agriculture (USDA) (1996a, b, 1993, 1980)—Food and Nutrient Intakes of Individuals in One Day in the United States*

USDA calculated mean intake rates for total fruits and total vegetables using data from the 1977−1978 and 1987−1988 Nationwide Food Consumption Surveys (NFCS) (USDA, 1993, 1980) and CSFII data from 1994 and 1995 (USDA, 1996a, b). Table 9-7 presents the mean per capita total intake rates for total fruits and total vegetables from the 1977−1978 NFCS. Table 9-8 presents similar data from the 1987−1988 NFCS and the 1994 and 1995 CSFII. Note that the age classifications used in these surveys were slightly different than those used in the 1977−1978 NFCS. Table 9-7 and Table 9-8 include both per capita intake rates and intake rates for consumers only for various ages of individuals. Intake rates for consumers only were calculated by dividing the per capita consumption rate by the fraction of the population consuming vegetables or fruits in a day.

The advantages of using these data are that they provide intake estimates for all fruits or all vegetables, combined. Again, these estimates are based on one-day dietary data, which may not reflect usual consumption patterns. These data are based on older surveys and may not be entirely representative of current eating patterns.

9.3.2.2. *U.S. Department of Agriculture (USDA) (1999b)—Food Consumption, Prices, and Expenditures, 1970−1997*

The USDA's Economic Research Service calculates the amount of food available for human consumption in the United States on an annual basis (USDA, 1999b). Supply and utilization balance sheets are generated based on the flow of food items from production to end uses for the years 1970 to 1997. Total available supply is estimated as the sum of production and imports (USDA, 1999b). The availability of food for human use commonly termed as "food disappearance" is determined by subtracting exported foods from the total available supply (USDA, 1999b). USDA (1999b) calculates the per capita food consumption by dividing the total food disappearance by the total U.S. population. USDA (1999b) estimated per capita consumption data for various fruit and vegetable products from 1970−1997. Table 9-9 presents retail weight per capita data. These data have been derived from the annual per capita values in units of pounds per year, presented by USDA (1999b), by converting to units of g/day.

An advantage of this study is that it provides per capita consumption rates for fruits and vegetables that are representative of long-term intake because disappearance data are generated annually. One of the limitations of this study is that disappearance data do not account for losses from the food supply from waste or spoilage. As a result, intake rates based on these data may overestimate daily consumption because they are based on the total quantity of marketable commodity utilized. Thus, these data represent bounding estimates of intake rates only. It should also be noted that per capita estimates based on food disappearance are not a direct measure of actual consumption or quantity ingested; instead, the data are used as indicators of changes in usage over time (USDA, 1999b). These data are based on older surveys and may not be entirely representative of current consumption patterns.

9.3.2.3. *U.S. Department of Agriculture (USDA) (1999a)—Food and Nutrient Intakes by Children 1994−1996, 1998, Table Set 17*

USDA (1999a) calculated national probability estimates of food and nutrient intake by children based on four years of the CSFII (1994−1996 and 1998) for children age nine years and under, and on CSFII 1994−1996 only for children age 10 years and over. The CSFII was a series of surveys designed to measure the kinds and amounts of foods eaten by Americans. Intake data, based on 24-hour dietary recall, were collected through in-person interviews on two non-consecutive days. Section 9.3.2.4 provides additional information on these surveys.

USDA (1999a) used sample weights to adjust for non-response, to match the sample to the U.S. population in terms of demographic characteristics, and to equalize intakes over the four quarters of the year and the seven days of the week. A total of 503 breast-fed children were excluded from the estimates, but both consumers and non-consumers were included in the analysis.

USDA (1999a) provided data on the mean per capita quantities (grams) of various food products/groups consumed per individual for one day, and the percent of individuals consuming those foods in one day of the survey. Table 9-10 through Table 9-13 present data on the mean quantities (grams) of fruits and vegetables consumed per individual for one day, and the percentage of survey individuals consuming fruits and vegetables on that survey day. Data on mean intakes or mean percentages are based on respondents' Day-1 intakes.

The advantage of the USDA (1999a) study is that it uses the 1994−1996, 1998 CSFII data set, which includes four years of intake data, combined, and includes the supplemental data on children. These data are expected to be generally representative of the U.S. population, and they include data on a wide variety of fruits and vegetables. The data set is one of a series of USDA data sets that are publicly available. One limitation of this data set is that it is based on 1 day, and short-term dietary data may not accurately reflect long-term eating patterns. Other limitations of this study are that it only provides mean values of food intake rates, consumption is not normalized by body weight, and presentation of results is not consistent with U.S. EPA's recommended age groups. These data are based on older surveys and may not be entirely representative of current eating patterns.

9.3.2.4. *U.S. EPA Analysis of Continuing Survey of Food Intake Among Individuals (CSFII) 1994−1996, 1998 Based on U.S. Department of Agriculture (USDA) (2000) and U.S. EPA (2000)*

U.S. EPA/OPP, in cooperation with USDA's Agricultural Research Service, used data from the 1994−1996, 1998 CSFII to develop the FCID (U.S. EPA, 2000; USDA, 2000), as described in Section 9.3.1.1. The CSFII 1994−1996 was conducted between January 1994 and January 1997 with a target population of non-institutionalized individuals in all 50 states and Washington, DC. In each of the three survey years, data were collected for a nationally representative sample of individuals of all ages. The CSFII 1998 was conducted between December 1997 and December 1998 and surveyed children 9 years of age and younger. It used the same sample design as the CSFII 1994−1996 and was intended to be merged with CSFII 1994−1996 to increase the sample size for children. The merged surveys are designated as CSFII 1994−1996, 1998 (USDA, 2000). Additional information on the CSFII can be obtained at http://www.ars.usda.gov/Services/docs.htm?docid=14531.

The CSFII 1994−1996, 1998 collected dietary intake data through in-person interviews on 2 non-consecutive days. The data were based on 24-hour recall. A total of 21,662 individuals provided data for the first day; of those individuals, 20,607 provided data for a second day. The 2-day response rate for the 1994−1996 CSFII was approximately 76%. The 2-day response rate for CSFII 1998 was 82%. The CSFII 1994−1996, 1998 surveys were based on a complex multistage area probability sample design. The sampling frame was organized using 1990 U.S. population census estimates, and the stratification plan took into account geographic location, degree of urbanization, and socioeconomic characteristics. Several sets of sampling weights are available for use with the intake data. By using appropriate weights, data for all four years of the surveys can be combined. USDA recommends that all four years be combined in order to provide an adequate sample size for children.

The fruits and vegetable items/groups selected for the U.S. EPA analysis included total fruits and vegetables, and various individual fruits and vegetables. CSFII data on the foods people reported eating were converted to the quantities of agricultural commodities eaten. Intake rates for these food items/groups were calculated, and summary statistics were generated on both a per capita and a consumer-only basis using the same general methodology as in the U.S. EPA analysis of 2003−2006 NHANES data, as described in Section 9.3.1.1. Because these data were developed for use in U.S. EPA's pesticide registration program, the childhood age groups used are slightly different than those recommended in U.S. EPA's *Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants* (U.S. EPA, 2005).

Table 9-14 presents per capita intake data for total fruits and total vegetables in g/kg-day; Table 9-15 provides consumer-only intake data for total fruits and total vegetables in g/kg-day. Table 9-16 provides per capita intake data for individual fruits and vegetables, and Table 9-17 provides consumer-only intake data for individual fruits and vegetables. In general, these data represent intake of the edible portions of uncooked foods. Table 9-18 through Table 9-22 present data for exposed/protected fruits and vegetables and root vegetables. These five tables were created using only CSFII 1994−1996. These data represent as-consumed intake rates.

The results are presented in units of g/kg-day. Thus, use of these data in calculating potential dose does not require the body-weight factor to be included in the denominator of the ADD equation. The cautions concerning converting these intake rates into units of g/day by multiplying by a single average body weight and the discussion of the use of short term data in the NHANES description in Section 9.3.1.1, apply to the CSFII estimates as well. A strength of U.S. EPA's analysis is that it provides distributions of intake rates for various age groups of children and adults, normalized by body weight. The analysis uses the 1994−1996, 1998 CSFII data set, which was designed to be representative of the U.S. population. Also, the data set includes four years of

intake data combined and is based on a 2-day survey period. However, as discussed above, short-term dietary data may not accurately reflect long-term eating patterns and may under-represent infrequent consumers of a given food. This is particularly true for the tails (extremes) of the distribution of food intake. Also, the analysis was conducted using slightly different childhood age groups than those recommended in U.S. EPA's *Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants* (U.S. EPA, 2005). However, given the similarities in the age groups used, the data should provide suitable intake estimates for the age groups of interest. While the CSFII data are older than the NHANES data, they provide relevant information on consumption by season, region of the United States, and urbanization, breakdowns that are not available in the publicly released NHANES data.

9.3.2.5. *Smiciklas-Wright et al. (2002)—Foods Commonly Eaten in the United States: Quantities Consumed per Eating Occasion and in a Day, 1994−1996*

Using data gathered in the 1994−1996 USDA CSFII, Smiciklas-Wright et al. (2002) calculated distributions for the quantities of fruits and vegetables consumed per eating occasion by members of the U.S. population (i.e., serving sizes). The estimates of serving size were based on data obtained from 14,262 respondents, ages 2 years and above, who provided 2 days of dietary intake information. Only dietary intake data from users of the specified food were used in the analysis (i.e., consumer-only data).

Table 9-23 presents serving size data for selected fruits and vegetables, and Table 9-24 presents serving size data by age group. These data are presented on an as-consumed basis (grams) and represent the quantity of fruits and vegetables consumed per eating occasion. These estimates may be useful for assessing acute exposures to contaminants in specific foods, or other assessments where the amount consumed per eating occasion is necessary. Only the mean and standard deviation serving size data and percent of the population consuming the food during the 2-day survey period are presented in this handbook. Percentiles of serving sizes of the foods consumed by these age groups of the U.S. population can be found in Smiciklas-Wright et al. (2002).

The advantages of using these data are that they were derived from the USDA CSFII and are representative of the U.S. population. The analysis conducted by Smiciklas-Wright et al. (2002) accounted for individual foods consumed as ingredients of mixed foods. Mixed foods were disaggregated via recipe files so that the individual ingredients could be grouped together with similar foods that were reported separately. Thus, weights of foods consumed as ingredients were combined with weights of foods reported separately to provide a more thorough representation of consumption. However, it should be noted that since the recipes for the mixed foods consumed were not provided by the respondents, standard recipes were used. As a result, the estimates of quantity consumed for some food types are based on assumptions about the types and quantities of ingredients consumed as part of mixed foods. This study used data from the 1994 to 1996 CSFII; data from the 1998 children's supplement were not included.

9.3.2.6. *Vitolins et al. (2002)—Quality of Diets Consumed by Older Rural Adults*

Vitolins et al. (2002) conducted a survey to evaluate the dietary intake, by food groups, of older (>70 years) rural adults. The sample consisted of 130 community dwelling residents from two rural counties in North Carolina. Data on dietary intake over the preceding year were obtained in face-to-face interviews conducted in participants' homes, or in a few cases, a senior center. The food frequency questionnaire used in the survey was a modified version of the National Cancer Institute Health Habits and History Questionnaire; this modified version included an expanded food list containing a greater number of ethnic foods than the original food frequency form. Demographic and personal data collected included sex, ethnicity, age, education, denture use, marital status, chronic disease, and weight. Food items reported in the survey were separated into food groups similar to the USDA Food Guide Pyramid and the National Cancer Institute's *5 A Day for Better Health* program. These groups are: (1) fruits and vegetables; (2) bread, cereal, rice, and pasta; (3) milk, yogurt, and cheese; (4) meat, fish, poultry, beans, and eggs; and (5) fats, oils, sweets, and snacks. Medians, ranges, frequencies, and percentages were used to summarize intake of each food group, broken down by demographic and health characteristics. To assess the univariate associations of these characteristics with consumption, Wilcoxon rank-sum tests were used. In addition, multivariate regression models were used to determine which demographic and health factors were jointly predictive of intake of each of the five food groups.

Thirty-four percent of the survey participants were African American, 36% were European

American, and 30% were Native American. Sixty-two percent were female, 62% were not married at the time of the interview, and 65% had some high school education or were high school graduates. Almost all of the participants (95%) had one or more chronic diseases. Sixty percent of the respondents were between 70 and 79 years of age; the median age was 78 years old. Table 9-25 presents the median servings of fruits and vegetables broken down by demographic and health characteristic. The only variable predictive of fruit and vegetable intake was ethnicity ($p = 0.02$), with European Americans consuming significantly more than either African Americans or Native Americans. The multiple regression model indicated a statistically significant interaction between sex and ethnicity ($p = 0.04$) and a significant main effect for chronic disease ($p = 0.04$) for fruit and vegetable consumption. Among males, European Americans consumed significantly more fruits and vegetables than either African Americans or Native Americans. Men and women did not differ significantly in their fruit and vegetable consumption, except for African Americans, where women had a significantly greater intake ($p = 0.01$).

An advantage of this study is that dietary information was collected on older individuals (>70 years of age). One limitation of the study, as noted by the study authors, is that the study did not collect information on the length of time the participants had been practicing the dietary behaviors reported in the survey. Also, the survey results are based on dietary recall; the questionnaire required participants to report the frequency of food consumption during the past year. The study authors noted that, currently, there are no dietary assessment tools that allow collecting comprehensive dietary data over years of food consumption. Another limitation of the study is that the small sample size used makes associations by sex and ethnicity difficult.

9.3.2.7. *Fox et al. (2004)—Feeding Infants and Toddlers Study: What Foods Are Infants and Toddlers Eating*

Fox et al. (2004) used data from the *Feeding Infants and Toddlers Study* (FITS) to assess food consumption patterns in infants and toddlers. The FITS was sponsored by Gerber Products Company and was conducted to obtain current information on food and nutrient intakes of children, ages 4 to 24 months old, in the 50 states and the District of Columbia. The FITS is described in detail in Devaney et al. (2004). FITS was based on a random sample of 3,022 infants and toddlers for which dietary intake data were collected by telephone from their parents or caregivers between March and July 2002. An initial recruitment and household interview was conducted, followed by an interview to obtain information on intake based on 24-hour recall. The interview also addressed growth, development, and feeding patterns. A second dietary recall interview was conducted for a subset of 703 randomly selected respondents. The study over-sampled children in the 4 to 6 and 9 to 11 months age groups; sample weights were adjusted for non-response, over-sampling, and under-coverage of some population groups. The response rate for the FITS was 73% for the recruitment interview. Of the recruited households, there was a response rate of 94% for the dietary recall interviews (Devaney et al., 2004). Table 9-26 shows the characteristics of the FITS study population.

Fox et al. (2004) analyzed the first set of 24-hour recall data collected from all study participants. For this analysis, children were grouped into six age categories: 4 to 6 months, 7 to 8 months, 9 to 11 months, 12 to 14 months, 15 to 18 months, and 19 to 24 months. Table 9-27 provides the percentage of infants and toddlers consuming different types of vegetables at least once in a day. The percentages of children eating any type of vegetable ranged from 39.9% for 4 to 6 month olds to 81.6% for 19 to 24 month olds. Table 9-28 provides the top five vegetables consumed by age group. Some of the highest percentages ranged from baby food carrots (9.6%) in the 4 to 6 month old group to French fries (25.5%) in the 19 to 24 month old group. Table 9-29 provides the percentage of children consuming different types of fruit at least once per day. The percentages of children eating any type of fruit ranged from 41.9% to 4 to 6 month olds to 77.2% for 12 to 14 month olds. Table 9-30 provides information on the top five fruits eaten by infants and toddlers at least once per day. The highest percentages were for bananas among infants 9 to 24 months, and baby food applesauce among infants 4 to 8 months old.

The advantages of this study are that the study population represented the U.S. population and the sample size was large. One limitation of the analysis done by Fox et al. (2004) was that only frequency data were provided; no information on actual intake rates was included. In addition, Devaney et al. (2004) noted several limitations associated with the FITS data. For the FITS, a commercial list of infants and toddlers was used to obtain the sample used in the study. Since many of the households could not be located and did not have children in the target population, a lower response rate than would have occurred in a true national sample was obtained

(Devaney et al., 2004). In addition, the sample was likely from a higher socioeconomic status when compared with all U.S. infants in this age group (4 to 24 months old), and the use of a telephone survey may have omitted lower-income households without telephones (Devaney et al., 2004).

9.3.2.8. *Ponza et al. (2004)—Nutrient Food Intakes and Food Choices of Infants and Toddlers Participating in Women, Infants, and Children (WIC)*

Ponza et al. (2004) conducted a study using selected data from the FITS to assess feeding patterns, food choices, and nutrient intake of infants and toddlers participating in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Ponza et al. (2004) evaluated FITS data for the following age groups: 4 to 6 months (N = 862), 7 to 11 months (N = 1,159), and 12 to 24 months (N = 996). Table 9-31 shows the total sample size described by WIC participants and non-participants.

The foods consumed were analyzed by tabulating the percentage of infants who consumed specific foods/food groups per day (Ponza et al., 2004). Weighted data were used in all of the analyses used in the study (Ponza et al., 2004). Table 9-31 presents the demographic data for WIC participants and non-participants. Table 9-32 provides information on the food choices for the infants and toddlers studied. There was little difference in vegetable choices among WIC participants and non-participants (see Table 9-32). However, there were some differences for fruits.

An advantage of this study is that it had a relatively large sample size and was representative of the U.S. general population of infants and children. A limitation of the study is that intake values for foods were not provided. Other limitations are those associated with the FITS data, as described previously in Section 9.3.2.7.

9.3.2.9. *Fox et al. (2006)—Average Portion of Foods Commonly Eaten by Infants and Toddlers in the United States*

Fox et al. (2006) estimated average portion sizes consumed per eating occasion by children 4 to 24 months of age who participated in the FITS. Section 9.3.2.7 describes the FITS, which is a cross-sectional study designed to collect and analyze data on feeding practices, food consumption, and usual nutrient intake of U.S. infants and toddlers. It included a stratified random sample of 3,022 children between 4 and 24 months of age.

Using the 24-hour recall data, Fox et al. (2006) derived average portion sizes for major food groups, including fruits and vegetables. Average portion sizes for select individual foods within these major groups were also estimated. For this analysis, children were grouped into six age categories: 4 to 5 months, 6 to 8 months, 9 to 11 months, 12 to 14 months, 15 to 18 months, and 19 to 24 months. Table 9-33 and Table 9-34 present the average portion sizes for fruits and vegetables for infants and toddlers, respectively.

An advantage of this study is that it had a relatively large sample size and was representative of the U.S. general population of infants and children. Limitations are those associated with the FITS data, as described previously in Section 9.3.2.7.

9.3.2.10. *Mennella et al. (2006)—Feeding Infants and Toddlers Study: The Types of Foods Fed to Hispanic Infants and Toddlers*

Mennella et al. (2006) investigated the types of food and beverages consumed by Hispanic infants and toddlers in comparison to the non-Hispanic infants and toddlers in the United States. The FITS 2002 data for children between 4 and 24 months of age were used for the study. The data represent a random sample of 371 Hispanic and 2,367 non-Hispanic infants and toddlers (Mennella et al., 2006). Menella et al. (2006) grouped the infants as follows: 4 to 5 months (N = 84 Hispanic; 538 non-Hispanic), 6 to 11 months (N = 163 Hispanic; 1,228 non-Hispanic), and 12 to 24 months (N = 124 Hispanic; 871 non-Hispanic) of age.

Table 9-35 provides the percentages of Hispanic and non-Hispanic infants and toddlers consuming fruits and vegetables. In most instances, the percentages consuming the different types of fruits and vegetables were similar. However, 4-to-5-month-old Hispanic infants were more likely to eat fruits than non-Hispanic infants in this age group. Table 9-36 provides the top five fruits and vegetables consumed and the percentage of children consuming these foods at least once in a day. Apples and bananas were the foods with the highest percent consuming for both the Hispanic and non-Hispanic study groups. Potatoes and carrots were the vegetables with the highest percentage of infants and toddlers consuming in both study groups.

The advantage of the study is that it provides information on food preferences for Hispanic and non-Hispanic infants and toddlers. A limitation is that the study did not provide food intake data, but provided frequency-of-use data instead. Other limitations are those noted previously in Section 9.3.2.7 for the FITS data.

9.4. CONVERSION BETWEEN WET- AND DRY-WEIGHT INTAKE RATES

The intake data presented in this chapter are reported in units of wet weight (i.e., as-consumed or edible portion uncooked fruits and vegetables consumed per day or per eating occasion). However, data on the concentration of contaminants in fruits and vegetables may be reported in units of either wet or dry weight (e.g., mg contaminant per gram dry weight of fruits and vegetables). It is essential that exposure assessors be aware of this difference so that they may ensure consistency between the units used for intake rates and those used for concentration data (i.e., if the contaminant concentration is measured in dry weight of fruits and vegetables, then the dry-weight units should be used for their intake values).

If necessary, wet-weight (e.g., as-consumed) intake rates may be converted to dry-weight intake rates using the moisture content percentages presented in Table 9-37 (USDA, 2007) and the following equation:

$$IR_{dw} = IR_{ww}\left[\frac{100 - W}{100}\right] \qquad \text{(Eqn. 9-1)}$$

where:

IR_{dw} = dry-weight intake rate,
IR_{ww} = wet-weight intake rate, and
W = percent water content.

Alternatively, dry-weight residue levels in fruits and vegetables may be converted to wet-weight residue levels for use with wet-weight (e.g., as-consumed) intake rates as follows:

$$C_{ww} = C_{dw}\left[\frac{100 - W}{100}\right] \qquad \text{(Eqn. 9-2)}$$

where:

C_{ww} = wet-weight concentration,
C_{dw} = dry-weight concentration, and
W = percent water content.

Table 9-37 presents moisture data for selected fruits and vegetables taken from USDA (2007).

9.5. REFERENCES FOR CHAPTER 9

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Table 9-3. Per Capita Intake of Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Percent Consuming	Mean	SE	Percentiles 1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Fruits														
Whole Population	16,783	85	1.6	0.05	0.0	0.0	0.0	0.0	0.7	2.0	4.0	6.1	14.6	65.6*
Age Group														
Birth to 1 year	865	61	6.2	0.46	0.0*	0.0*	0.0	0.0	2.2	10.2	17.6	23.0*	35.9*	56.5*
1 to 2 years	1,052	97	7.8	0.42	0.0*	0.0*	0.2	2.2	5.6	11.7	16.8	21.3*	39.3*	65.6*
3 to 5 years	978	97	4.6	0.25	0.0*	0.0	0.0	0.9	3.2	6.6	11.1	14.9	20.0*	32.1*
6 to 12 years	2,256	93	2.3	0.12	0.0*	0.0	0.0	0.1	1.3	3.2	6.4	8.7	13.8*	24.4*
13 to 19 years	3,450	80	0.9	0.04	0.0	0.0	0.0	0.0	0.2	1.3	2.6	3.5	6.1	16.7*
20 to 49 years	4,289	81	0.9	0.04	0.0	0.0	0.0	0.0	0.3	1.3	2.6	3.7	6.2	15.9*
Female 13 to 49 years	4,103	85	1.0	0.05	0.0	0.0	0.0	0.0	0.4	1.4	2.8	3.7	6.4	16.7*
50 years and older	3,893	89	1.4	0.05	0.0	0.0	0.0	0.1	0.9	2.0	3.4	4.4	6.5	17.3*
Race														
Mexican American	4,450	87	2.3	0.11	0.0	0.0	0.0	0.1	1.1	2.7	5.8	9.6	18.3	39.2*
Non-Hispanic Black	4,265	82	1.2	0.06	0.0	0.0	0.0	0.0	0.2	1.3	3.2	5.0	12.4	39.1*
Non-Hispanic White	6,757	85	1.5	0.05	0.0	0.0	0.0	0.0	0.7	1.9	3.8	5.5	14.0	65.6*
Other Hispanic	562	87	2.1	0.20	0.0*	0.0	0.0	0.0	1.0	2.8	4.9	7.1	19.5*	32.7*
Other Race—Including Multiple	749	89	2.0	0.13	0.0*	0.0	0.0	0.1	0.9	2.6	5.2	8.6	15.3*	42.1*
Vegetables														
Whole Population	16,783	100	2.9	0.04	0.0	0.4	0.7	1.3	2.3	3.7	5.7	7.5	13.2	36.1*
Age Group														
Birth to 1 year	865	73	5.0	0.28	0.0*	00*	0.0	0.0	3.3	8.7	12.9	16.2*	22.7*	36.1*
1 to 2 years	1,052	100	6.7	0.26	0.0*	1.0*	1.6	3.0	5.7	8.9	13.3	15.6*	28.7*	32.8*
3 to 5 years	978	100	5.4	0.25	0.1*	0.6	1.5	2.3	4.2	7.2	10.6	13.4	21.4*	30.3*
6 to 12 years	2,256	100	3.7	0.18	0.1*	0.5	0.9	1.5	2.8	4.8	7.6	10.4	14.8*	23.1*
13 to 19 years	3,450	100	2.3	0.05	0.0	0.3	0.5	1.1	1.8	3.0	4.3	5.5	8.9	20.0*
20 to 49 years	4,289	100	2.5	0.06	0.1	0.4	0.7	1.3	2.2	3.3	4.9	5.9	8.6	18.3*
Female 13 to 49 years	4,103	100	2.5	0.08	0.1	0.4	0.6	1.2	2.0	3.3	4.7	5.9	8.9	18.3*
50 years and older	3,893	100	2.6	0.05	0.0	0.4	0.7	1.3	2.2	3.4	4.9	6.1	9.1	22.6*
Race														
Mexican American	4,450	99	3.2	0.06	0.0	0.5	0.8	1.5	2.5	4.1	6.4	8.6	13.5	36.1*
Non-Hispanic Black	4,265	100	2.4	0.05	0.0	0.2	0.5	0.9	1.7	3.0	4.7	6.5	11.5	30.3*
Non-Hispanic White	6,757	100	2.9	0.05	0.0	0.4	0.7	1.4	2.3	3.7	5.6	7.2	12.8	29.5*
Other Hispanic	562	99	3.1	0.16	0.0*	0.2	0.7	1.2	2.2	3.8	6.3	9.4	16.3*	26.2*
Other Race—Including Multiple	749	100	3.4	0.20	0.1*	0.4	0.7	1.5	2.7	4.2	6.8	9.3	15.6*	32.8*

N = Sample size.
SE = Standard error.
Max = Maximum value.
* Estimates are less statistically reliable based on guidance published in the *Joint Policy on Variance Estimation and Statistical Reporting Standards on NHANES III and CSFII Reports: NHIS/NCHS Analytical Working Group Recommendations* (NCHS, 1993).
Source: U.S. EPA analysis of the 2003−2006 NHANES.

Table 9-4. Consumer-Only Intake of Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Mean	SE	Percentiles									Max
				1st	5th	10th	25th	50th	75th	90th	95th	99th	
Fruits													
Whole Population	14,362	1.9	0.05	0.0	0.0	0.0	0.2	1.0	2.3	4.4	6.7	15.2	65.6*
Age Group													
Birth to 1 year	536	10.1	0.59	0.0*	0.3*	*0.8	3.6	8.1	14.7	21.2*	25.8*	43.7*	56.5*
1 to 2 years	1,002	8.1	0.43	0.0*	0.1*	0.5	2.6	6.2	11.8	16.8	21.4*	39.3*	65.6*
3 to 5 years	924	4.7	0.24	0.0*	0.0	0.1	1.1	3.5	6.7	11.3	15.1	20.0*	32.1*
6 to 12 years	2,077	2.5	0.12	0.0*	0.0	0.0	0.2	1.6	3.4	6.6	9.2	14.5*	24.4*
13 to 19 years	2,830	1.1	0.04	0.0	0.0	0.0	0.0	0.7	1.6	2.9	3.8	6.2	16.7*
20 to 49 years	3,529	1.1	0.05	0.0	0.0	0.0	0.1	0.6	1.6	2.9	3.8	6.7	15.9*
Female 13 to 49 years	3,508	1.2	0.06	0.0	0.0	0.0	0.1	0.7	1.7	3.1	4.1	6.5	16.7*
50 years and older	3,464	1.5	0.05	0.0	0.0	0.0	0.4	1.1	2.2	3.6	4.6	6.7	17.3*
Race													
Mexican American	3,835	2.6	0.12	0.0	0.0	0.0	0.4	1.4	3.0	6.3	10.6	19.3	39.2*
Non-Hispanic Black	3,595	1.4	0.07	0.0	0.0	0.0	0.0	0.6	1.7	3.8	5.7	12.9	39.1*
Non-Hispanic White	5,795	1.8	0.05	0.0	0.0	0.0	0.2	1.0	2.2	4.1	6.1	14.5	65.6*
Other Hispanic	478	2.5	0.23	0.0*	0.0	0.0	0.3	1.5	3.0	5.0	8.6	19.5*	32.7*
Other Race—Including Multiple	659	2.3	0.16	0.0*	0.0	0.0	0.2	1.1	2.8	6.0	9.4	15.3*	42.1*
Vegetables													
Whole Population	16,531	2.9	0.04	0.0	0.4	0.7	1.3	2.3	3.7	5.7	7.5	13.2	36.1*
Age Group													
Birth to 1 year	623	6.8	0.33	0.0*	0.1*	0.4*	2.6	5.5	10.1	14.5*	18.1*	22.7*	36.1*
1 to 2 years	1,048	6.7	0.26	0.0*	1.0*	1.7	3.0	5.7	8.9	13.3	15.6*	28.7*	32.8*
3 to 5 years	977	5.4	0.25	0.1*	0.6	1.5	2.3	4.2	7.2	10.6	13.4	21.4*	30.3*
6 to 12 years	2,256	3.7	0.18	0.1*	0.5	0.9	1.5	2.8	4.8	7.6	10.4	14.8*	23.1*
13 to 19 years	3,447	2.3	0.05	0.0	0.3	0.5	1.1	1.8	3.0	4.3	5.5	8.9	20.0*
20 to 49 years	4,288	2.5	0.06	0.1	0.4	0.7	1.3	2.2	3.3	4.9	5.9	8.6	18.3*
Female 13 to 49 years	4,102	2.5	0.08	0.1	0.4	0.6	1.2	2.0	3.3	4.7	5.9	8.9	18.3*
50 years and older	3,892	2.6	0.05	0.0	0.4	0.7	1.3	2.2	3.4	4.9	6.1	9.1	22.6*
Race													
Mexican American	4,341	3.3	0.06	0.1	0.5	0.8	1.5	2.5	4.1	6.4	8.6	13.5	36.1*
Non-Hispanic Black	4,228	2.4	0.05	0.0	0.3	0.5	0.9	1.7	3.0	4.7	6.5	11.5	30.3*
Non-Hispanic White	6,683	2.9	0.05	0.1	0.4	0.7	1.4	2.3	3.7	5.6	7.2	12.8	29.5*
Other Hispanic	544	3.1	0.16	0.1*	0.3	0.7	1.3	2.2	3.8	6.4	9.4	16.3*	26.2*
Other Race—Including Multiple	735	3.4	0.21	0.2*	0.4	0.7	1.5	2.7	4.3	6.9	9.3	15.6*	32.8*

N = Sample size.
SE = Standard error.
Max = Maximum value.
* Estimates are less statistically reliable based on guidance published in the *Joint Policy on Variance Estimation and Statistical Reporting Standards on NHANES III and CSFII Reports: NHIS/NCHS Analytical Working Group Recommendations* (NCHS, 1993).
Source: U.S. EPA analysis of the 2003−2006 NHANES.

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Apples			Asparagus			Bananas			Beans		
Whole Population	16,783	33	0.41	0.01	2	0.01	0.00	55	0.37	0.01	45	0.24	0.01
Age Group													
Birth to 1 year	865	39	2.23	0.24	1	0.00	0.00	46	1.83	0.19	30	0.54	0.06
1 to 2 years	1,052	50	1.96	0.14	2	0.03	0.01	77	2.35	0.26	49	0.69	0.06
3 to 5 years	978	42	1.21	0.10	1	0.01	0.01	73	1.00	0.09	43	0.61	0.07
6 to 12 years	2,256	39	0.74	0.06	1	0.01	0.00	68	0.42	0.04	37	0.30	0.03
13 to 19 years	3,450	27	0.27	0.02	1	0.00	0.00	50	0.15	0.01	31	0.13	0.01
20 to 49 years	4,289	28	0.21	0.02	2	0.01	0.00	48	0.20	0.01	46	0.19	0.01
Female 13 to 49 years	4,103	29	0.23	0.02	2	0.01	0.00	50	0.20	0.01	45	0.17	0.01
50 years and older	3,893	38	0.28	0.02	3	0.02	0.00	58	0.33	0.02	51	0.22	0.01
Race													
Mexican American	4,450	33	0.58	0.03	1	0.00	0.00	56	0.56	0.04	59	0.32	0.01
Non-Hispanic Black	4,265	27	0.31	0.02	0	0.00	0.00	55	0.25	0.02	43	0.25	0.01
Non-Hispanic White	6,757	35	0.40	0.02	3	0.02	0.00	54	0.36	0.02	43	0.22	0.01
Other Hispanic	562	32	0.47	0.06	1	0.00	0.00	55	0.53	0.06	58	0.25	0.03
Other Race—Including Multiple	749	32	0.47	0.04	3	0.01	0.00	58	0.43	0.04	50	0.30	0.04

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Beets			Berries and Small Fruit			Broccoli			Bulb Vegetables		
Whole Population	16,783	3	0.01	0.00	67	0.30	0.01	15	0.10	0.01	97	0.18	0.00
Age Group													
Birth to 1 year	865	5	0.00	0.00	19	0.24	0.09	6	0.07	0.02	39	0.07	0.01
1 to 2 years	1,052	1	0.00	0.00	83	1.46	0.14	16	0.30	0.06	94	0.28	0.02
3 to 5 years	978	1	0.01	0.01	84	0.97	0.11	12	0.19	0.04	96	0.28	0.02
6 to 12 years	2,256	0	0.00	0.00	80	0.46	0.04	11	0.10	0.02	98	0.21	0.02
13 to 19 years	3,450	1	0.00	0.00	64	0.19	0.01	9	0.05	0.01	98	0.15	0.01
20 to 49 years	4,289	2	0.01	0.00	62	0.17	0.01	16	0.09	0.01	98	0.19	0.01
Female 13 to 49 years	4,103	2	0.01	0.00	67	0.20	0.01	17	0.09	0.01	97	0.16	0.01
50 years and older	3,893	5	0.01	0.00	71	0.28	0.02	16	0.09	0.01	97	0.16	0.00
Race													
Mexican American	4,450	1	0.00	0.00	59	0.23	0.02	12	0.07	0.01	96	0.27	0.01
Non-Hispanic Black	4,265	1	0.00	0.00	64	0.18	0.01	12	0.07	0.01	96	0.13	0.01
Non-Hispanic White	6,757	4	0.01	0.00	69	0.33	0.02	15	0.10	0.01	97	0.17	0.00
Other Hispanic	562	3	0.00	0.00	59	0.30	0.05	16	0.13	0.04	93	0.23	0.01
Other Race—Including Multiple	749	1	0.00	0.00	66	0.38	0.06	19	0.13	0.03	97	0.25	0.02

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Cabbage			Carrots			Citrus Fruits			Corn		
Whole Population	16,783	13	0.05	0.00	47	0.14	0.00	20	0.16	0.01	96	0.43	0.01
Age Group													
Birth to 1 year	865	1	0.01	0.01	15	0.17	0.05	2	0.05	0.02	56	0.62	0.10
1 to 2 years	1,052	7	0.05	0.02	50	0.47	0.04	25	0.65	0.08	97	1.13	0.05
3 to 5 years	978	5	0.04	0.01	45	0.32	0.05	18	0.46	0.06	100	1.26	0.07
6 to 12 years	2,256	7	0.04	0.01	43	0.21	0.03	15	0.21	0.02	99	0.88	0.03
13 to 19 years	3,450	6	0.02	0.00	35	0.08	0.01	13	0.08	0.01	96	0.37	0.01
20 to 49 years	4,289	13	0.05	0.01	46	0.11	0.01	20	0.11	0.01	96	0.32	0.01
Female 13 to 49 years	4,103	12	0.05	0.01	46	0.11	0.01	21	0.11	0.01	96	0.31	0.01
50 years and older	3,893	18	0.08	0.00	54	0.12	0.01	25	0.14	0.01	96	0.27	0.01
Race													
Mexican American	4,450	10	0.03	0.00	45	0.15	0.01	27	0.37	0.03	96	0.78	0.03
Non-Hispanic Black	4,265	12	0.06	0.01	36	0.08	0.01	16	0.17	0.03	96	0.46	0.02
Non-Hispanic White	6,757	13	0.05	0.00	49	0.14	0.01	20	0.12	0.01	97	0.37	0.01
Other Hispanic	562	9	0.03	0.01	49	0.17	0.02	23	0.26	0.03	94	0.45	0.05
Other Race—Including Multiple	749	17	0.12	0.02	52	0.23	0.02	21	0.20	0.05	91	0.41	0.03

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Cucumbers			Cucurbits			Fruiting Vegetables			Leafy Vegetables		
Whole Population	16,783	40	0.09	0.00	48	0.34	0.03	95	0.80	0.02	92	0.54	0.01
Age Group													
Birth to 1 year	865	3	0.02	0.01	20	0.64	0.09	31	0.30	0.05	40	0.22	0.04
1 to 2 years	1,052	24	0.14	0.02	37	1.01	0.18	93	1.45	0.07	82	0.71	0.07
3 to 5 years	978	26	0.19	0.03	36	0.66	0.08	95	1.53	0.08	87	0.61	0.06
6 to 12 years	2,256	30	0.11	0.01	38	0.56	0.11	97	1.05	0.05	90	0.43	0.02
13 to 19 years	3,450	34	0.06	0.01	40	0.20	0.02	96	0.75	0.03	89	0.35	0.01
20 to 49 years	4,289	45	0.09	0.01	52	0.26	0.03	97	0.76	0.02	94	0.55	0.02
Female 13 to 49 years	4,103	44	0.10	0.01	51	0.30	0.04	96	0.70	0.03	93	0.58	0.03
50 years and older	3,893	43	0.08	0.01	54	0.31	0.02	95	0.66	0.03	93	0.60	0.02
Race													
Mexican American	4,450	30	0.07	0.01	42	0.27	0.02	96	1.13	0.03	90	0.40	0.02
Non-Hispanic Black	4,265	37	0.06	0.01	42	0.18	0.02	94	0.62	0.03	90	0.46	0.02
Non-Hispanic White	6,757	43	0.10	0.01	51	0.37	0.03	96	0.78	0.02	92	0.56	0.02
Other Hispanic	562	33	0.09	0.02	41	0.25	0.05	92	0.97	0.06	90	0.48	0.05
Other Race—Including Multiple	749	38	0.11	0.03	47	0.44	0.14	92	0.75	0.04	91	0.69	0.07

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Legumes			Lettuce			Onions			Peaches		
Whole Population	16,783	96	0.45	0.01	53	0.23	0.01	96	0.18	0.00	49	0.11	0.01
Age Group													
Birth to 1 year	865	58	1.58	0.15	1	0.01	0.00	38	0.07	0.01	27	0.77	0.09
1 to 2 years	1,052	97	1.65	0.24	21	0.15	0.02	94	0.27	0.02	70	0.55	0.08
3 to 5 years	978	98	1.07	0.17	29	0.23	0.03	95	0.26	0.02	68	0.31	0.05
6 to 12 years	2,256	97	0.48	0.04	37	0.17	0.01	98	0.20	0.02	67	0.13	0.02
13 to 19 years	3,450	95	0.23	0.01	53	0.20	0.01	97	0.15	0.01	45	0.05	0.01
20 to 49 years	4,289	96	0.34	0.02	62	0.26	0.01	97	0.18	0.01	43	0.04	0.01
Female 13 to 49 years	4,103	95	0.32	0.02	60	0.28	0.01	96	0.16	0.01	46	0.05	0.01
50 years and older	3,893	98	0.41	0.02	56	0.24	0.01	97	0.16	0.00	51	0.10	0.01
Race													
Mexican American	4,450	95	0.46	0.03	52	0.20	0.01	96	0.26	0.01	44	0.12	0.02
Non-Hispanic Black	4,265	96	0.39	0.02	45	0.15	0.01	95	0.13	0.01	52	0.09	0.01
Non-Hispanic White	6,757	97	0.42	0.02	55	0.25	0.01	97	0.17	0.00	50	0.11	0.01
Other Hispanic	562	96	0.63	0.17	50	0.19	0.03	93	0.22	0.01	38	0.09	0.03
Other Race—Including Multiple	749	95	0.76	0.10	51	0.22	0.03	96	0.24	0.02	46	0.09	0.02

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Pears			Peas			Pome Fruit			Pumpkins		
Whole Population	16,783	10	0.09	0.01	19	0.07	0.00	38	0.50	0.02	2	0.00	0.00
Age Group													
Birth to 1 year	865	19	0.70	0.10	36	0.66	0.07	45	2.94	0.29	0	0.00	0.00
1 to 2 years	1,052	25	0.44	0.07	27	0.29	0.04	61	2.40	0.15	0	0.01	0.01
3 to 5 years	978	25	0.32	0.06	17	0.17	0.02	54	1.53	0.11	0	0.00	0.00
6 to 12 years	2,256	17	0.13	0.02	13	0.06	0.01	48	0.87	0.06	1	0.01	0.00
13 to 19 years	3,450	8	0.03	0.00	13	0.04	0.01	31	0.30	0.02	1	0.00	0.00
20 to 49 years	4,289	6	0.04	0.01	18	0.05	0.00	31	0.25	0.02	2	0.00	0.00
Female 13 to 49 years	4,103	8	0.04	0.01	18	0.05	0.00	32	0.28	0.02	2	0.00	0.00
50 years and older	3,893	9	0.07	0.01	23	0.07	0.00	42	0.35	0.02	3	0.00	0.00
Race													
Mexican American	4,450	10	0.13	0.02	15	0.05	0.01	39	0.71	0.04	5	0.01	0.00
Non-Hispanic Black	4,265	9	0.05	0.01	20	0.08	0.01	31	0.36	0.02	0	0.00	0.00
Non-Hispanic White	6,757	10	0.08	0.01	19	0.07	0.00	39	0.48	0.02	2	0.00	0.00
Other Hispanic	562	8	0.07	0.02	19	0.07	0.02	35	0.54	0.08	4	0.01	0.01
Other Race—Including Multiple	749	11	0.16	0.05	27	0.13	0.02	36	0.63	0.06	2	0.00	0.00

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Root Tuber Vegetables			Stalk/Stem Vegetables			Stone Fruit			Strawberries		
Whole Population	16,783	99	1.15	0.02	19	0.05	0.00	52	0.16	0.01	41	0.10	0.01
Age Group													
Birth to 1 year	865	69	2.66	0.19	3	0.01	0.00	32	0.94	0.11	10	0.06	0.03
1 to 2 years	1,052	100	3.15	0.13	13	0.07	0.02	72	0.67	0.08	52	0.36	0.06
3 to 5 years	978	100	2.60	0.16	10	0.05	0.02	72	0.41	0.06	53	0.27	0.05
6 to 12 years	2,256	100	1.79	0.07	11	0.03	0.00	68	0.21	0.03	50	0.14	0.03
13 to 19 years	3,450	100	0.99	0.04	12	0.02	0.00	47	0.08	0.01	35	0.07	0.01
20 to 49 years	4,289	100	0.89	0.03	24	0.05	0.00	46	0.08	0.01	36	0.06	0.01
Female 13 to 49 years	4,103	100	0.87	0.02	21	0.04	0.00	49	0.09	0.01	39	0.07	0.01
50 years and older	3,893	100	0.91	0.03	21	0.05	0.01	55	0.17	0.02	45	0.10	0.01
Race													
Mexican American	4,450	99	1.17	0.04	12	0.02	0.00	47	0.18	0.03	34	0.07	0.01
Non-Hispanic Black	4,265	99	1.09	0.03	12	0.02	0.00	54	0.13	0.01	29	0.04	0.01
Non-Hispanic White	6,757	100	1.14	0.03	21	0.06	0.00	54	0.17	0.01	44	0.11	0.01
Other Hispanic	562	98	1.24	0.09	15	0.03	0.01	41	0.13	0.03	33	0.09	0.02
Other Race—Including Multiple	749	99	1.35	0.08	27	0.06	0.01	49	0.13	0.03	36	0.10	0.02

Table 9-5. Per Capita Intake of Individual Fruits and Vegetables Based on the 2003−2006 (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Tomatoes			Tropical Fruits			White Potatoes					
Whole Population	16,783	87	0.72	0.02	66	0.46	0.02	91	0.65	0.02			
Age Group													
Birth to 1 year	865	26	0.29	0.04	48	1.97	0.20	46	0.52	0.08			
1 to 2 years	1,052	83	1.40	0.07	83	2.65	0.28	94	1.74	0.10			
3 to 5 years	978	85	1.46	0.08	81	1.19	0.09	94	1.38	0.15			
6 to 12 years	2,256	91	0.99	0.04	75	0.52	0.04	93	0.96	0.07			
13 to 19 years	3,450	89	0.69	0.03	59	0.22	0.02	92	0.61	0.03			
20 to 49 years	4,289	89	0.66	0.02	61	0.27	0.02	91	0.54	0.02			
Female 13 to 49 years	4,103	88	0.62	0.02	64	0.28	0.02	90	0.50	0.02			
50 years and older	3,893	84	0.59	0.03	68	0.40	0.02	93	0.54	0.03			
Race													
Mexican American	4,450	91	0.99	0.03	70	0.73	0.05	87	0.65	0.03			
Non-Hispanic Black	4,265	84	0.57	0.02	64	0.32	0.03	91	0.64	0.03			
Non-Hispanic White	6,757	87	0.71	0.02	65	0.42	0.02	93	0.65	0.03			
Other Hispanic	562	86	0.90	0.05	71	0.86	0.09	86	0.66	0.08			
Other Race—Including Multiple	749	82	0.66	0.03	68	0.59	0.04	87	0.69	0.06			

N = Sample size.
SE = Standard error.
Note: Data for fruits and vegetables for which only small percentages of the population reported consumption may be less reliable than data for fruits and vegetables with higher percentages consuming.

Source: U.S. EPA analysis of the 2003−2006 NHANES.

Table 9-6. Consumer-Only Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Apples			Asparagus			Bananas			Beans			Beets		
Whole Population	5,743	1.23	0.03	204	0.63	0.05	9,644	0.68	0.02	7,635	0.53	0.01	353	0.29	0.04
Age Group															
Birth to 1 year	318	5.79	0.38	1	0.21	---	396	3.97	0.31	235	1.80	0.20	30	0.01	0.00
1 to 2 years	508	3.95	0.23	8	1.61	0.15	795	3.04	0.34	530	1.41	0.10	12	0.00	0.00
3 to 5 years	432	2.91	0.21	5	0.77	0.31	716	1.37	0.12	461	1.42	0.13	11	0.97	0.63
6 to 12 years	837	1.88	0.12	15	0.60	0.15	1,553	0.61	0.05	936	0.79	0.05	8	0.78	0.33
13 to 19 years	938	1.00	0.05	13	0.26	0.06	1,817	0.31	0.02	1,264	0.41	0.02	20	0.10	0.03
20 to 49 years	1,233	0.75	0.04	61	0.50	0.07	2,142	0.41	0.03	2,141	0.41	0.01	81	0.30	0.09
Female 13 to 49 years	1,195	0.81	0.05	41	0.42	0.07	2,215	0.39	0.03	1,845	0.39	0.01	58	0.39	0.13
50 years and older	1,477	0.75	0.03	101	0.73	0.06	2,225	0.58	0.02	2,068	0.43	0.01	191	0.28	0.05
Race															
Mexican American	1,601	1.72	0.09	18	0.44	0.08	2,490	1.00	0.05	2,482	0.54	0.02	55	0.07	0.04
Non-Hispanic Black	1,228	1.16	0.05	14	0.57	0.13	2,533	0.46	0.04	1,722	0.58	0.03	42	0.21	0.04
Non-Hispanic White	2,458	1.15	0.04	154	0.67	0.05	3,863	0.66	0.03	2,809	0.52	0.02	235	0.31	0.05
Other Hispanic	202	1.45	0.19	3	0.61	0.25	322	0.98	0.08	291	0.44	0.05	12	0.12	0.04
Other Race—Including Multiple	254	1.45	0.13	15	0.38	0.11	436	0.74	0.07	331	0.61	0.06	9	0.11	0.07

Table 9-6. Consumer-Only Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Berries and Small Fruit			Broccoli			Bulb Vegetables			Cabbage			Carrots		
Whole Population	10,981	0.45	0.02	2,047	0.65	0.03	15,773	0.19	0.00	1,833	0.43	0.02	7,231	0.30	0.01
Age Group															
Birth to 1 year	166	1.26	0.42	45	1.14	0.19	346	0.19	0.03	13	0.96	0.44	166	1.13	0.23
1 to 2 years	839	1.76	0.15	132	1.84	0.27	1,003	0.30	0.02	72	0.73	0.26	525	0.93	0.08
3 to 5 years	788	1.15	0.12	108	1.50	0.25	947	0.29	0.02	67	0.71	0.15	449	0.71	0.09
6 to 12 years	1,751	0.57	0.05	228	0.96	0.12	2,216	0.21	0.02	164	0.56	0.16	912	0.49	0.05
13 to 19 years	2,210	0.30	0.02	289	0.53	0.04	3,354	0.16	0.01	218	0.31	0.04	1,152	0.24	0.02
20 to 49 years	2,601	0.27	0.01	664	0.53	0.03	4,194	0.19	0.01	577	0.41	0.03	1,948	0.24	0.01
Female 13 to 49 years	2,705	0.31	0.02	560	0.54	0.04	3,994	0.17	0.01	461	0.41	0.05	1,755	0.24	0.01
50 years and older	2,626	0.40	0.02	581	0.56	0.02	3,713	0.17	0.00	722	0.43	0.02	2,079	0.23	0.01
Race															
Mexican American	2,563	0.38	0.02	456	0.61	0.07	4,132	0.28	0.01	390	0.32	0.04	1,912	0.33	0.02
Non-Hispanic Black	2,899	0.28	0.02	474	0.61	0.04	4,022	0.14	0.01	442	0.51	0.04	1,471	0.22	0.01
Non-Hispanic White	4,686	0.47	0.02	925	0.65	0.04	6,410	0.18	0.00	852	0.41	0.02	3,220	0.29	0.01
Other Hispanic	333	0.51	0.08	82	0.85	0.22	514	0.25	0.01	48	0.32	0.04	272	0.34	0.05
Other Race—Including Multiple	500	0.58	0.10	110	0.66	0.09	695	0.25	0.02	101	0.70	0.08	356	0.44	0.04

Table 9-6. Consumer-Only Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Citrus Fruits			Corn			Cucumbers			Cucurbits			Fruiting Vegetables		
Whole Population	3,398	0.77	0.04	15,899	0.44	0.01	5,728	0.23	0.01	7,109	0.70	0.05	15,483	0.84	0.02
Age Group															
Birth to 1 year	30	2.90	0.96	465	1.12	0.14	25	0.70	0.31	138	3.16	0.16	281	0.98	0.12
1 to 2 years	256	2.61	0.30	1,028	1.16	0.06	210	0.58	0.09	332	2.75	0.42	987	1.56	0.07
3 to 5 years	191	2.50	0.29	971	1.26	0.07	247	0.74	0.12	335	1.86	0.25	926	1.61	0.09
6 to 12 years	440	1.39	0.09	2,237	0.88	0.04	666	0.37	0.03	828	1.47	0.22	2,192	1.08	0.05
13 to 19 years	549	0.66	0.04	3,332	0.38	0.01	1,191	0.18	0.01	1,347	0.50	0.06	3,304	0.78	0.03
20 to 49 years	896	0.55	0.05	4,134	0.33	0.01	1,827	0.20	0.01	2,138	0.50	0.06	4,155	0.78	0.02
Female 13 to 49 years	860	0.53	0.04	3,967	0.32	0.01	1,596	0.24	0.01	1,874	0.59	0.08	3,945	0.73	0.03
50 years and older	1,036	0.57	0.04	3,732	0.28	0.01	1,562	0.19	0.01	1,991	0.57	0.03	3,638	0.69	0.03
Race															
Mexican American	1,148	1.40	0.06	4,185	0.81	0.03	1,218	0.25	0.02	1,733	0.65	0.05	4,079	1.18	0.03
Non-Hispanic Black	669	1.04	0.14	4,058	0.48	0.02	1,471	0.17	0.01	1,647	0.44	0.04	3,943	0.66	0.03
Non-Hispanic White	1,323	0.59	0.04	6,454	0.39	0.01	2,627	0.23	0.01	3,211	0.73	0.06	6,293	0.82	0.02
Other Hispanic	127	1.10	0.14	516	0.48	0.05	166	0.26	0.05	212	0.60	0.10	498	1.05	0.06
Other Race—Including Multiple	131	0.96	0.24	686	0.45	0.03	246	0.29	0.06	306	0.94	0.29	670	0.81	0.04

Table 9-6. Consumer-Only Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Leafy Vegetables			Legumes			Lettuce			Onions			Peaches		
Whole Population	14,824	0.59	0.01	15,808	0.46	0.01	7,946	0.44	0.01	15,695	0.18	0.00	8,542	0.22	0.01
Age Group															
Birth to 1 year	351	0.55	0.09	459	2.74	0.21	17	0.34	0.16	342	0.19	0.02	215	2.80	0.31
1 to 2 years	896	0.86	0.08	1,011	1.70	0.25	216	0.70	0.09	998	0.28	0.02	700	0.79	0.10
3 to 5 years	861	0.70	0.06	957	1.09	0.17	297	0.78	0.11	941	0.28	0.02	676	0.45	0.07
6 to 12 years	2,035	0.48	0.02	2,198	0.49	0.04	931	0.45	0.02	2,209	0.20	0.02	1,517	0.20	0.03
13 to 19 years	3,106	0.39	0.01	3,256	0.24	0.01	1,882	0.38	0.02	3,333	0.15	0.01	1,675	0.11	0.02
20 to 49 years	4,008	0.59	0.02	4,135	0.35	0.02	2,576	0.43	0.02	4,177	0.19	0.01	1,845	0.10	0.01
Female 13 to 49 years	3,789	0.62	0.03	3,915	0.34	0.02	2,379	0.47	0.02	3,969	0.16	0.01	1,996	0.11	0.01
50 years and older	3,567	0.65	0.02	3,792	0.42	0.02	2,027	0.43	0.01	3,695	0.16	0.00	1,914	0.21	0.02
Race															
Mexican American	3,847	0.44	0.02	4,089	0.49	0.03	2,120	0.38	0.02	4,115	0.27	0.01	1,951	0.28	0.04
Non-Hispanic Black	3,786	0.51	0.03	4,044	0.41	0.02	1,803	0.34	0.02	4,004	0.14	0.01	2,432	0.18	0.02
Non-Hispanic White	6,046	0.61	0.02	6,454	0.44	0.02	3,438	0.46	0.01	6,369	0.17	0.00	3,530	0.22	0.01
Other Hispanic	475	0.53	0.06	517	0.66	0.18	248	0.39	0.05	514	0.24	0.01	250	0.25	0.08
Other Race—Including Multiple	670	0.76	0.07	704	0.79	0.10	337	0.43	0.04	693	0.25	0.02	379	0.19	0.04

Table 9-6. Consumer-Only Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Pears			Peas			Pome Fruit			Pumpkins			Root Tuber Vegetables		
Whole Population	1,965	0.89	0.04	3,133	0.39	0.02	6,699	1.31	0.03	285	0.22	0.02	16,478	1.16	0.02
Age Group															
Birth to 1 year	144	3.77	0.38	236	1.83	0.11	371	6.50	0.42	3	0.73	0.39	583	3.88	0.24
1 to 2 years	243	1.79	0.21	257	1.05	0.11	621	3.92	0.23	4	2.13	0.41	1,050	3.15	0.13
3 to 5 years	221	1.31	0.20	180	0.97	0.13	537	2.82	0.18	8	0.80	0.21	978	2.60	0.16
6 to 12 years	403	0.77	0.12	309	0.51	0.06	1,071	1.82	0.10	35	0.55	0.16	2,256	1.79	0.07
13 to 19 years	272	0.35	0.04	416	0.34	0.04	1,085	0.98	0.05	40	0.19	0.06	3,447	0.99	0.04
20 to 49 years	278	0.63	0.05	780	0.26	0.02	1,362	0.81	0.04	95	0.20	0.04	4,278	0.90	0.03
Female 13 to 49 years	323	0.56	0.07	675	0.27	0.02	1,352	0.87	0.05	87	0.22	0.04	4,097	0.87	0.02
50 years and older	404	0.72	0.06	955	0.29	0.01	1,652	0.84	0.04	100	0.17	0.02	3,886	0.92	0.03
Race															
Mexican American	518	1.25	0.14	644	0.37	0.04	1,851	1.81	0.09	160	0.28	0.06	4,316	1.18	0.04
Non-Hispanic Black	489	0.61	0.07	812	0.42	0.04	1,512	1.15	0.05	10	0.71	0.33	4,218	1.10	0.03
Non-Hispanic White	807	0.84	0.05	1,364	0.38	0.02	2,821	1.23	0.03	91	0.17	0.02	6,667	1.15	0.03
Other Hispanic	54	0.90	0.12	116	0.39	0.08	223	1.55	0.21	11	0.28	0.12	544	1.26	0.09
Other Race—Including Multiple	97	1.51	0.32	197	0.49	0.07	292	1.78	0.16	13	0.23	0.14	733	1.36	0.08

Table 9-6. Consumer-Only Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Stalk/Stem Vegetables			Stone Fruit			Strawberries			Tomatoes			Tropical Fruits		
Whole Population	2,409	0.24	0.01	8,966	0.30	0.02	6,168	0.24	0.02	14,240	0.83	0.02	11,299	0.70	0.02
Age Group															
Birth to 1 year	15	0.26	0.07	235	2.98	0.33	88	0.60	0.28	246	1.11	0.12	423	4.12	0.30
1 to 2 years	101	0.58	0.10	721	0.92	0.10	480	0.70	0.12	895	1.68	0.09	862	3.19	0.33
3 to 5 years	81	0.50	0.10	691	0.56	0.08	460	0.51	0.09	840	1.72	0.09	800	1.47	0.11
6 to 12 years	212	0.24	0.04	1,545	0.31	0.04	1,019	0.28	0.06	2,071	1.09	0.05	1,733	0.69	0.05
13 to 19 years	387	0.15	0.01	1,719	0.16	0.02	1,076	0.20	0.03	3,093	0.77	0.03	2,151	0.37	0.03
20 to 49 years	941	0.22	0.01	1,961	0.17	0.02	1,466	0.17	0.02	3,894	0.74	0.02	2,692	0.44	0.02
Female 13 to 49 years	719	0.20	0.01	2,101	0.18	0.02	1,492	0.19	0.03	3,679	0.71	0.02	2,720	0.44	0.03
50 years and older	672	0.26	0.03	2,094	0.30	0.03	1,579	0.23	0.03	3,201	0.70	0.03	2,638	0.58	0.02
Race															
Mexican American	411	0.18	0.02	2,043	0.38	0.05	1,438	0.22	0.02	3,897	1.09	0.03	3,031	1.03	0.07
Non-Hispanic Black	409	0.15	0.01	2,497	0.24	0.02	1,276	0.15	0.02	3,547	0.68	0.02	2,865	0.51	0.05
Non-Hispanic White	1,336	0.26	0.02	3,753	0.31	0.02	2,979	0.25	0.03	5,714	0.82	0.02	4,498	0.64	0.02
Other Hispanic	71	0.17	0.03	270	0.31	0.08	198	0.29	0.06	470	1.05	0.06	399	1.21	0.12
Other Race—Including Multiple	182	0.22	0.02	403	0.27	0.04	277	0.27	0.05	612	0.81	0.04	506	0.86	0.06

Table 9-6. Consumer-Only Intake of Individual Fruits and Vegetables Based on the 2003−2006 NHANES (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	White Potatoes														
Whole Population	14,944	0.72	0.02												
Age Group															
Birth to 1 year	389	1.14	0.15												
1 to 2 years	982	1.86	0.10												
3 to 5 years	915	1.46	0.15												
6 to 12 years	2,111	1.03	0.07												
13 to 19 years	3,163	0.67	0.03												
20 to 49 years	3,861	0.59	0.02												
Female 13 to 49 years	3,691	0.56	0.02												
50 years and older	3,523	0.58	0.03												
Race															
Mexican American	3,773	0.75	0.03												
Non-Hispanic Black	3,881	0.70	0.03												
Non-Hispanic White	6,180	0.71	0.03												
Other Hispanic	466	0.77	0.08												
Other Race—Including Multiple	644	0.79	0.06												

N = Sample size.
SE = Standard error.
Source: U.S. EPA analysis of the 2003−2006 NHANES.

Table 9-7. Mean Total Fruit and Total Vegetable Intake (as-consumed) in a Day by Sex and Age (1977−1978)[a]

Age (years)	Per Capita Intake (g/day)	Percent of Population Consuming in a Day	Consumer-Only Intake (g/day)[b]
		Fruits	
Males and Females			
≤1	169	86.8	196
1 to 2	146	62.9	231
3 to 5	134	56.1	239
6 to 8	152	60.1	253
Males			
9 to 11	133	50.5	263
12 to 14	120	51.2	236
15 to 18	147	47.0	313
19 to 22	107	39.4	271
23 to 34	141	46.4	305
35 to 50	115	44.0	262
51 to 64	171	62.4	275
65 to 74	174	62.2	281
≥75	186	62.6	197
Females			
9 to 11	148	59.7	247
12 to 14	120	48.7	247
15 to 18	126	49.9	251
19 to 22	133	48.0	278
23 to 34	122	47.7	255
35 to 50	133	52.8	252
51 to 64	171	66.7	256
65 to 74	179	69.3	259
≥75	189	64.7	292
Males and Females			
All ages	142	54.2	263
		Vegetables	
Males and Females			
≤1	76	62.7	121
1 to 2	91	78.0	116
3 to 5	100	79.3	126
6 to 8	136	84.3	161
Males			
9 to 11	138	83.5	165
12 to 14	184	84.5	217
15 to 18	216	85.9	251
19 to 22	226	84.7	267
23 to 34	248	88.5	280
35 to 50	261	86.8	300
51 to 64	285	90.3	316
65 to 74	265	88.5	300
≥75	264	93.6	281
Females			
9 to 11	139	83.7	166
12 to 14	154	84.6	183
15 to 18	178	83.8	212
19 to 22	184	81.1	227
23 to 34	187	84.7	221
35 to 50	187	84.6	221
51 to 64	229	89.8	255
65 to 74	221	87.2	253
≥75	198	88.1	226
Males and Females			
All ages	201	85.6	235

[a] Based on USDA Nationwide Food Consumption Survey (1977−1978) data for one day.

[b] Intake for users only was calculated by dividing the per capita intake rate by the fraction of the population consuming fruit in a day.

Source: USDA (1980).

Table 9-8. Mean Total Fruit and Total Vegetable Intake (as-consumed) in a Day by Sex and Age (1987−1988, 1994, and 1995)[a]

Age (years)	Per Capita Intake (g/day)			Percent of Population Consuming in 1 Day			Consumer-Only Intake (g/day)[b]		
	1987−1988	1994	1995	1987−1988	1994	1995	1987−1988	1994	1995
	Fruits								
Males and Females									
5 and under	157	230	221	59.2	70.6	72.6	265	326	304
Males									
6 to 11	182	176	219	63.8	59.8	62.2	285	294	352
12 to 19	158	169	210	49.4	44.0	47.1	320	384	446
≥20	133	175	170	46.5	50.2	49.6	286	349	342
Females									
6 to 11	154	174	172	58.3	59.3	63.6	264	293	270
12 to 19	131	148	167	47.1	47.1	44.4	278	314	376
≥20	140	157	155	52.7	55.1	54.4	266	285	285
Males and Females									
All Ages	142	171	173	51.4	54.1	54.2	276	316	319
	Vegetables								
Males and Females									
5 and under	81	80	83	74.0	75.2	75.0	109	106	111
Males									
6 to 11	129	118	111	86.8	82.4	80.6	149	143	138
12 to 19	173	154	202	85.2	74.9	79.0	203	206	256
≥20	232	242	241	85.0	85.9	86.4	273	282	278
Females									
6 to 11	129	115	108	80.6	82.9	79.1	160	139	137
12 to 19	129	132	144	75.8	78.5	76.0	170	168	189
≥20	183	190	189	82.9	84.7	83.2	221	224	227
Males and Females									
All Ages	182	186	188	82.6	83.2	82.6	220	223	228

[a] Based on USDA NFCS (1987−1988) and CSFII (1994 and 1995) data for one day.

[b] Intake for users only was calculated by dividing the per capita intake rate by the fraction of the population consuming fruits in a day.

Source: USDA (1996a, b).

Table 9-9. Per Capita Consumption of Fresh Fruits and Vegetables in 1997[a]

Fresh Fruits		Fresh Vegetables	
Food Item	Per Capita Consumption (g/day)[b]	Food Item	Per Capita Consumption (g/day)[b]
Citrus		Artichokes	0.6
Oranges (includes Temple oranges)	16.9	Asparagus	0.7
Tangerines and Tangelos	3.0	Bell Peppers	8.3
Lemons	3.4	Broccoli	6.0
Limes	1.4	Brussel Sprouts	0.4
Grapefruit	7.6	Cabbage	11.8
Total Fresh Citrus	32.2	Carrots	15.1
		Cauliflower	1.9
Non-citrus		Celery	7.0
Apples	22.0	Sweet Corn	9.2
Apricots	0.1	Cucumber	7.2
Avocados	1.6	Eggplant	0.5
Bananas	34.5	Escarole/Endive	0.2
Cherries	0.6	Garlic	2.1
Cranberries	0.1	Head Lettuce	28.1
Grapes	9.1	Romaine Lettuce	7.0
Kiwi Fruit	0.5	Onions	20.9
Mangoes	1.7	Radishes	0.5
Peaches and Nectarines	6.7	Snap Beans	1.6
Pears	4.1	Spinach	0.6
Pineapple	2.9	Tomatoes	20.0
Papayas	0.6	Total Fresh Vegetables	149.8
Plums and Prunes	1.9		
Strawberries	4.9		
Melons	34.5		
Total Fresh Non-citrus	125.6		
Total Fresh Fruits	157.8		

[a] Based on retail-weight equivalent. Includes imports; excludes exports and foods grown in home gardens. Data for 1997 were used.

[b] Original data were presented in lbs/year; data were converted to g/day by multiplying by a factor of 454 g/lb and dividing by 365 day/year.

Source: USDA (1999b).

Table 9-10. Mean Quantities of Vegetables Consumed Daily by Sex and Age, for Children, per Capita (g/day, as-consumed)[a]

Age Group (years)	Sample Size	Total	White Potatoes		Dark Green Vegetables	Deep Yellow Vegetables	Tomatoes	Lettuce, Lettuce-based Salads	Green Beans	Corn, Green Peas, Lima Beans	Other Vegetables
			Total	Fried							
Males and Females											
Under 1	1,126	57	9	1	2	19	1[b]	[b,c]	6	5	16
1	1,016	79	26	11	5	9	7	1	8	9	16
2	1,102	87	32	17	4	5	11	2	7	10	17
1 to 2	2,118	83	29	14	5	7	9	1	7	9	17
3	1,831	91	34	17	5	5	13	2	5	11	16
4	1,859	97	37	19	6	5	11	3	5	12	18
5	884	103	44	22	4	6	12	3	6	12	17
3 to 5	4,574	97	38	20	5	5	12	3	5	11	17
≤5	7,818	88	31	16	4	7	10	2	6	10	17
Males											
6 to 9	787	110	47	26	4	5	16	5	5	11	16
6 to 11	1,031	115	50	27	5	5	16	5	5	11	18
12 to 19	737	176	85	44	6	6	28	12	3[b]	10	25
Females											
6 to 9	704	110	42	22	5	4	14	6	5	13	21
6 to 11	969	116	46	25	5	4	15	7	5	12	22
12 to 19	732	145	61	31	9	4	18	12	4	8	28
Males and Females											
≤9	9,309	97	37	19	4	6	12	3	6	11	18
≤19	11,287	125	53	27	6	6	17	7	5	10	22

[a] Based on data from 1994−1996, 1998 CSFII.

[b] Estimate is not statistically reliable due to small samples size reporting intake.

[c] Value less than 0.5, but greater than 0.

Note: Consumption amounts shown are representative of the first day of each participant's survey response.

Source: USDA (1999a).

Table 9-11. Percentage of Individuals Consuming Vegetables, by Sex and Age, for Children (%)[a]

Age Group (years)	Sample Size	Total	White Potatoes		Dark Green Vegetables	Deep Yellow Vegetables	Tomatoes	Lettuce, Lettuce-based Salads	Green Beans	Corn, Green Peas, Lima Beans	Other Vegetables
			Total	Fried							
Males and Females											
Under 1	1,126	47.2	12.3	4.3	2.3	20.5	1.8	0.2[b]	7.8	8.5	14.8
1	1,016	73.3	40.4	25.2	6.4	13.3	18.0	3.9	13.7	17.6	19.4
2	1,102	78.4	46.7	34.5	7.6	10.5	30.8	7.5	11.5	15.0	22.3
1 to 2	2,118	75.9	43.6	29.9	7.0	11.8	24.6	5.7	12.6	16.2	20.9
3	1,831	80.5	46.7	34.7	7.0	10.7	34.1	8.3	10.1	14.6	24.7
4	1,859	80.7	47.3	34.8	7.2	12.0	33.0	10.0	9.0	16.4	26.5
5	884	83.0	50.7	38.3	4.6	13.3	36.5	13.4	10.4	16.1	28.8
3 to 5	4,574	81.4	48.2	35.9	6.3	12.0	34.5	10.6	9.9	15.7	26.7
≤5	7,818	75.4	42.3	30.1	6.1	13.0	27.2	7.6	10.5	15.0	23.3
Males											
6 to 9	787	78.8	47.9	38.0	6.3	12.5	38.2	13.1	7.8	15.0	29.7
6 to 11	1,031	79.3	48.7	38.4	6.1	12.4	38.7	13.9	6.7	13.8	30.8
12 to 19	737	78.2	49.5	38.6	3.6	8.0	43.0	23.8	3.5	7.4	33.2
Females											
6 to 9	704	80.5	48.2	36.3	5.9	11.9	33.8	15.8	8.4	15.9	26.6
6 to 11	969	81.7	50.8	38.9	5.4	11.4	33.5	17.1	7.8	15.1	29.2
12 to 19	732	79.5	46.4	34.6	7.0	10.6	35.3	25.1	4.4	7.4	34.5
Males and Females											
≤9	9,309	77.1	44.6	32.9	6.1	12.7	30.7	10.3	9.6	15.2	25.2
≤19	11,287	78.3	46.8	35.3	5.6	11.2	34.6	16.6	7.0	11.9	29.4

[a] Based on data from 1994–1996, 1998 CSFII.

[b] Estimate is not statistically reliable due to small samples size reporting intake.

Note: Consumption amounts shown are representative of the first day of each participant's survey response.

Source: USDA (1999a).

Table 9-12. Mean Quantities of Fruits Consumed Daily by Sex and Age, for Children, per Capita (g/day, as-consumed)[a]

Age Group (years)	Sample Size	Total	Citrus Fruits and Juices		Dried Fruits	Other Fruits, Mixtures, and Juices					
			Total	Juices		Total	Apples	Bananas	Melons and Berries	Other Fruits and Mixtures (mainly fruit)	Non-Citrus Juices and Nectars
Males and Females											
Under 1	1,126	131	4	4	-[b,c]	126	14	10	1[b]	39	61
1	1,016	267	47	42	2	216	22	23	8	29	134
2	1,102	276	65	56	2	207	27	20	10	20	130
1 to 2	2,118	271	56	49	2	212	24	22	9	24	132
3	1,831	256	61	51	1	191	27	18	13	24	110
4	1,859	243	62	52	1	177	31	17	14	22	92
5	884	218	55	44	-[b,c]	160	31	14	13	24	78
3 to 5	4,574	239	59	49	1	176	30	16	13	23	93
≤5	7,818	237	52	44	1	182	26	17	10	26	103
Males											
6 to 9	787	194	58	51	-[b,c]	133	32	11	21	20	50
6 to 11	1,031	183	67	60	-[b,c]	113	28	11	16	19	40
12 to 19	737	174	102	94	1[b]	70	13	8	11[b]	10	29
Females											
6 to 9	704	180	63	54	1[b]	113	23	10	10	25	46
6 to 11	969	169	64	54	-[b,c]	103	21	8	8	23	42
12 to 19	732	157	72	67	-[b,c]	83	13	5	15	14	35
Males and Females											
≤9	9,309	217	55	47	1	159	27	15	12	24	81
≤19	11,287	191	70	62	1	118	21	11	12	19	56

[a] Based on data from 1994−1996, 1998 CSFII.
[b] Estimate is not statistically reliable due to small samples size reporting intake.
[c] Value less than 0.5, but greater than 0.
\- Indicates value as not statistically significant or less than 0.5, but greater than 0.
Note: Consumption amounts shown are representative of the first day of each participant's survey response.

Source: USDA (1999a).

Table 9-13. Percentage of Individuals Consuming, Fruits by Sex and Age, for Children (%)[a]

Age Group (years)	Sample Size	Total	Citrus Fruits and Juices		Dried Fruits	Other Fruits, Mixtures, and Juices					
			Total	Juices		Total	Apples	Bananas	Melons and Berries	Other Fruits and Mixtures (mainly fruit)	Non-Citrus Juices and Nectars
Males and Females											
Under 1	1,126	59.7	3.6	2.7	0.4[b]	59.0	15.7	13.3	1.8	29.9	33.0
1	1,016	81.0	23.6	19.0	5.9	73.0	23.4	25.1	6.9	26.5	43.2
2	1,102	76.6	30.6	23.4	5.3	64.7	24.0	20.2	8.5	19.4	37.0
1 to 2	2,118	78.8	27.2	21.3	5.6	68.8	23.7	22.6	7.7	22.9	40.0
3	1,831	74.5	27.9	21.4	4.1	64.2	22.4	17.5	7.8	20.1	33.3
4	1,859	72.6	28.0	21.8	3.0	62.1	23.7	15.7	7.6	20.0	30.8
5	884	67.6	26.9	19.5	1.3[b]	56.9	21.9	12.6	7.4	19.0	24.5
3 to 5	4,574	71.6	27.6	20.9	2.8	61.0	22.7	15.3	7.6	19.7	29.5
≤5	7,818	72.6	24.6	18.8	3.5	63.5	22.2	17.6	6.9	22.0	33.5
Males											
6 to 9	787	59.0	24.8	20.5	0.8[b]	49.1	20.3	8.7	7.3	16.8	15.5
6 to 11	1,031	56.5	25.2	21.6	1.1[b]	44.2	18.2	8.0	6.6	15.4	12.7
12 to 19	737	44.5	24.7	21.7	1.0[b]	27.1	8.2	6.0	4.1	7.1	8.2
Females											
6 to 9	704	64.9	27.9	22.3	1.5[b]	50.4	17.3	8.8	7.4	20.4	17.3
6 to 11	969	62.1	27.7	21.5	1.1[b]	47.2	16.2	7.3	7.4	19.0	14.9
12 to 19	732	45.6	22.4	18.1	1.1[b]	30.2	8.2	4.4	6.0	11.3	9.7
Males and Females											
≤9	9,309	68.3	25.2	19.8	2.5	58.0	20.9	14.0	7.1	20.6	26.7
≤19	11,287	57.8	24.8	20.1	1.8	44.4	15.2	9.7	6.2	15.5	17.9

[a] Based on data from 1994−1996, 1998 CSFII.

[b] Estimate is not statistically reliable due to small sample size reporting intake.

Note: Percentages shown are representative of the first day of each participant's survey response.

Source: USDA (1999a).

Table 9-14. Per Capita Intake of Fruits and Vegetables Based on 1994–1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Percent Consuming	Mean	SE	Percentiles									
					1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Fruits														
Whole Population	20,607	80.0	1.6	0.0	0.0	0.0	0.0	0.0	0.5	2.0	4.2	6.5	14.0	73.8
Age Group														
Birth to 1 year	1,486	56.4	5.7	0.3	0.0	0.0	0.0	0.0	1.5	9.6	17.1	21.3	32.2	73.8
1 to 2 years	2,096	89.5	6.2	0.2	0.0	0.0	0.0	0.5	4.7	9.4	14.6	18.5	26.4	44.0
3 to 5 years	4,391	90.0	4.6	0.1	0.0	0.0	0.0	0.2	3.2	7.0	11.4	14.4	22.3	45.5
6 to 12 years	2,089	88.3	2.4	0.1	0.0	0.0	0.0	0.1	1.3	3.3	6.4	8.8	14.3	25.0
13 to 19 years	1,222	73.2	0.8	0.1	0.0	0.0	0.0	0.0	0.1	1.1	2.4	3.5	6.9	12.8
20 to 49 years	4,677	75.3	0.9	0.0	0.0	0.0	0.0	0.0	0.2	1.3	2.7	3.9	6.2	16.7
≥50 years	4,646	85.8	1.4	0.0	0.0	0.0	0.0	0.1	0.9	2.1	3.6	4.8	7.6	18.4
Season														
Fall	4,687	79.6	1.5	0.1	0.0	0.0	0.0	0.0	0.5	2.0	4.2	6.4	13.3	43.8
Spring	5,308	80.2	1.6	0.1	0.0	0.0	0.0	0.0	0.5	1.9	4.2	6.7	14.7	73.8
Summer	5,890	78.3	1.5	0.1	0.0	0.0	0.0	0.0	0.4	1.9	4.0	6.2	12.8	53.2
Winter	4,722	81.7	1.7	0.0	0.0	0.0	0.0	0.0	0.7	2.1	4.4	6.6	14.3	37.5
Race														
Asian, Pacific Islander	557	78.8	2.1	0.2	0.0	0.0	0.0	0.0	1.1	3.2	6.0	7.4	14.7	43.5
American Indian, Alaskan Native	177	77.8	1.9	0.3	0.0	0.0	0.0	0.0	0.9	1.9	5.3	9.6	16.4	20.9
Black	2,740	71.3	1.2	0.1	0.0	0.0	0.0	0.0	0.1	1.2	3.6	5.6	13.3	40.0
Other/NA	1,638	78.5	2.2	0.2	0.0	0.0	0.0	0.0	0.9	2.9	6.1	10.0	18.5	45.5
White	15,495	81.5	1.6	0.0	0.0	0.0	0.0	0.0	0.6	2.0	4.1	6.3	13.4	73.8
Region														
Midwest	4,822	82.3	1.6	0.0	0.0	0.0	0.0	0.0	0.6	2.0	4.1	6.2	13.1	43.5
Northeast	3,692	83.4	1.7	0.1	0.0	0.0	0.0	0.0	0.8	2.2	4.2	6.3	14.1	40.0
South	7,208	74.7	1.3	0.1	0.0	0.0	0.0	0.0	0.2	1.5	3.5	5.7	13.0	73.8
West	4,885	82.7	2.0	0.1	0.0	0.0	0.0	0.0	0.9	2.6	5.2	8.0	15.3	45.5
Urbanization														
City Center	6,164	79.0	1.6	0.0	0.0	0.0	0.0	0.0	0.5	2.0	4.4	6.3	14.1	45.5
Suburban	9,598	82.5	1.7	0.0	0.0	0.0	0.0	0.0	0.7	2.1	4.5	6.9	14.5	43.8
Non-metropolitan	4,845	75.9	1.3	0.1	0.0	0.0	0.0	0.0	0.3	1.6	3.6	5.4	12.8	73.8

Table 9-14. Per Capita Intake of Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percentiles									
					1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
					Vegetables									
Whole Population	20,607	99.5	3.4	0.0	0.0	0.4	0.8	1.6	2.7	4.3	6.4	8.3	14.8	58.2
Age Group														
Birth to 1 year	1,486	72.1	4.5	0.2	0.0	0.0	0.0	0.0	2.7	7.4	12.2	14.8	25.3	56.8
1 to 2 years	2,096	99.7	6.9	0.2	0.0	0.7	1.5	3.2	5.6	9.3	13.9	17.1	26.5	58.2
3 to 5 years	4,391	100.0	5.9	0.1	0.0	0.8	1.4	2.8	4.7	7.7	11.7	14.7	23.4	50.9
6 to 12 years	2,089	99.9	4.1	0.1	0.1	0.6	1.0	1.8	3.2	5.3	7.8	9.9	17.4	53.7
13 to 19 years	1,222	100.0	2.9	0.1	0.0	0.4	0.7	1.4	2.4	3.8	5.5	6.9	11.4	29.5
20 to 49 years	4,677	99.9	2.9	0.0	0.1	0.5	0.8	1.5	2.5	3.8	5.4	6.8	10.0	42.7
≥50 years	4,646	99.9	3.1	0.0	0.0	0.5	0.9	1.6	2.6	4.0	5.7	7.0	10.6	38.7
Season														
Fall	4,687	99.6	3.3	0.1	0.0	0.5	0.8	1.6	2.7	4.3	6.2	7.6	13.0	58.2
Spring	5,308	99.5	3.4	0.1	0.0	0.4	0.8	1.5	2.6	4.2	6.6	8.8	16.0	53.7
Summer	5,890	99.5	3.6	0.1	0.0	0.4	0.8	1.6	2.9	4.6	7.2	9.5	15.8	50.9
Winter	4,722	99.5	3.2	0.1	0.0	0.5	0.9	1.6	2.6	4.2	5.8	7.5	12.8	56.8
Race														
Asian, Pacific Islander	557	99.0	4.4	0.3	0.0	0.8	1.3	2.3	3.9	5.6	8.2	10.2	15.9	32.3
American Indian, Alaskan Native	177	99.7	3.9	0.3	0.0	0.5	0.8	1.6	2.8	5.2	8.1	9.8	18.4	34.5
Black	2,740	99.5	3.0	0.1	0.0	0.2	0.5	1.2	2.1	3.9	6.2	8.4	16.1	56.8
Other/NA	1,638	98.8	4.1	0.2	0.0	0.5	0.9	1.7	3.0	5.1	8.2	11.6	21.1	58.2
White	15,495	99.6	3.3	0.0	0.0	0.5	0.8	1.6	2.7	4.3	6.2	8.0	13.5	50.9
Region														
Midwest	4,822	99.6	3.4	0.1	0.0	0.5	0.8	1.6	2.7	4.3	6.5	8.6	14.1	53.7
Northeast	3,692	99.7	3.3	0.1	0.0	0.4	0.7	1.5	2.6	4.3	6.2	8.2	14.4	42.7
South	7,208	99.5	3.2	0.1	0.0	0.4	0.8	1.6	2.6	4.1	6.2	7.9	14.2	58.2
West	4,885	99.3	3.6	0.1	0.0	0.5	0.9	1.7	2.9	4.6	7.0	8.8	15.5	50.9
Urbanization														
City Center	6,164	99.5	3.3	0.1	0.0	0.4	0.7	1.5	2.7	4.3	6.4	8.5	15.3	58.2
Suburban	9,598	99.5	3.4	0.0	0.0	0.5	0.9	1.6	2.7	4.3	6.5	8.3	14.0	53.7
Non-metropolitan	4,845	99.6	3.3	0.1	0.0	0.5	0.8	1.6	2.6	4.2	6.4	8.1	14.9	49.4

N = Sample size.
SE = Standard error.

Source: U.S. EPA analysis of 1994−1996, 1998 CSFII.

Table 9-15. Consumer-Only Intake of Fruits and Vegetables Based on 1994–1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Mean	SE	Percentiles									
				1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
				Fruits									
Whole Population	16,762	2.0	0.0	0.0	0.0	0.0	0.1	1.0	2.5	4.9	7.3	15.0	73.8
Age Group													
Birth to 1 year	830	10.1	0.4	0.0	0.4	1.2	3.7	8.5	14.4	20.4	26.4	34.7	73.8
1 to 2 years	1,878	6.9	0.2	0.0	0.0	0.1	2.2	5.4	10.1	15.3	19.0	27.1	44.0
3 to 5 years	3,957	5.1	0.1	0.0	0.0	0.0	1.0	3.8	7.5	11.9	15.0	22.8	45.5
6 to 12 years	1,846	2.7	0.1	0.0	0.0	0.0	0.3	1.7	3.7	6.7	9.3	14.8	25.0
13 to 19 years	898	1.1	0.1	0.0	0.0	0.0	0.0	0.5	1.5	2.9	3.7	7.6	12.8
20 to 49 years	3,458	1.2	0.0	0.0	0.0	0.0	0.1	0.7	1.7	3.2	4.4	6.6	16.7
≥50 years	3,895	1.6	0.0	0.0	0.0	0.0	0.3	1.1	2.3	3.8	5.0	8.0	18.4
Season													
Fall	3,796	1.9	0.1	0.0	0.0	0.0	0.1	0.9	2.4	4.9	7.1	14.4	43.8
Spring	4,289	2.0	0.1	0.0	0.0	0.0	0.2	1.0	2.4	4.9	7.5	16.1	73.8
Summer	4,744	1.9	0.1	0.0	0.0	0.0	0.1	0.9	2.4	4.7	7.1	14.5	53.2
Winter	3,933	2.0	0.1	0.0	0.0	0.0	0.2	1.1	2.6	4.9	7.6	15.3	37.5
Race													
Asian, Pacific Islander	427	2.7	0.2	0.0	0.0	0.0	0.5	1.7	3.8	6.6	7.8	14.7	43.5
American Indian, Alaskan Native	146	2.4	0.4	0.0	0.0	0.0	0.4	1.1	2.9	5.8	10.0	17.6	20.9
Black	2,065	1.7	0.1	0.0	0.0	0.0	0.0	0.6	2.0	4.6	6.7	15.7	40.0
Other/NA	1,323	2.9	0.2	0.0	0.0	0.0	0.3	1.5	3.6	7.7	11.2	19.3	45.5
White	12,801	1.9	0.0	0.0	0.0	0.0	0.2	1.0	2.4	4.7	7.0	14.5	73.8
Region													
Midwest	4,023	1.9	0.1	0.0	0.0	0.0	0.1	1.0	2.3	4.7	6.7	14.4	43.5
Northeast	3,145	2.0	0.1	0.0	0.0	0.0	0.2	1.1	2.6	4.6	6.9	14.8	40.0
South	5,531	1.7	0.1	0.0	0.0	0.0	0.1	0.7	2.1	4.5	6.9	14.4	73.8
West	4,063	2.4	0.1	0.0	0.0	0.0	0.3	1.3	3.0	5.8	8.9	16.4	45.5
Urbanization													
City Center	4,985	2.0	0.1	0.0	0.0	0.0	0.1	1.0	2.7	4.9	7.1	14.8	45.5
Suburban	8,046	2.1	0.1	0.0	0.0	0.0	0.2	1.1	2.5	5.1	7.7	15.6	43.8
Non-metropolitan	3,731	1.7	0.1	0.0	0.0	0.0	0.1	0.8	2.1	4.1	6.3	13.9	73.8

Table 9-15. Consumer-Only Intake of Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	Percentiles									
				1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Vegetables													
Whole Population	20,163	3.4	0.0	0.0	0.5	0.8	1.6	2.7	4.3	6.4	8.4	14.8	58.2
Age Group													
Birth to 1 year	1,062	6.2	0.3	0.0	0.1	0.1	2.0	4.9	9.4	13.4	16.1	26.4	56.8
1 to 2 years	2,090	6.9	0.2	0.0	0.7	1.5	3.2	5.6	9.3	13.9	17.1	26.5	58.2
3 to 5 years	4,389	5.9	0.1	0.0	0.8	1.4	2.8	4.7	7.7	11.7	14.7	23.4	50.9
6 to 12 years	2,087	4.1	0.1	0.1	0.6	1.0	1.8	3.2	5.3	7.8	9.9	17.4	53.7
13 to 19 years	1,222	2.9	0.1	0.0	0.4	0.7	1.4	2.4	3.8	5.5	6.9	11.4	29.5
20 to 49 years	4,673	2.9	0.0	0.1	0.5	0.8	1.5	2.5	3.8	5.4	6.8	10.0	42.7
≥50 years	4,640	3.1	0.0	0.0	0.5	0.9	1.6	2.6	4.0	5.7	7.0	10.6	38.7
Season													
Fall	4,606	3.3	0.1	0.1	0.5	0.8	1.6	2.8	4.3	6.2	7.7	13.0	58.2
Spring	5,185	3.4	0.1	0.0	0.5	0.8	1.5	2.6	4.2	6.7	8.8	16.0	53.7
Summer	5,740	3.6	0.1	0.1	0.4	0.8	1.7	2.9	4.6	7.2	9.5	15.8	50.9
Winter	4,632	3.2	0.1	0.0	0.6	0.9	1.6	2.7	4.2	5.9	7.5	12.8	56.8
Race													
Asian, Pacific Islander	530	4.4	0.3	0.1	1.0	1.4	2.4	3.9	5.6	8.2	10.2	15.9	32.3
American Indian, Alaskan Native	174	3.9	0.3	0.0	0.5	0.9	1.7	2.9	5.2	8.1	9.8	18.4	34.5
Black	2,683	3.1	0.1	0.0	0.2	0.5	1.2	2.1	3.9	6.2	8.4	16.1	56.8
Other/NA	1,577	4.2	0.2	0.1	0.6	0.9	1.8	3.0	5.2	8.3	11.7	21.3	58.2
White	15,199	3.3	0.0	0.1	0.5	0.9	1.6	2.7	4.3	6.2	8.0	13.6	50.9
Region													
Midwest	4,721	3.4	0.1	0.1	0.5	0.8	1.6	2.7	4.3	6.5	8.6	14.2	53.7
Northeast	3,634	3.3	0.1	0.0	0.4	0.8	1.5	2.6	4.3	6.2	8.2	14.4	42.7
South	7,078	3.3	0.1	0.0	0.5	0.8	1.6	2.6	4.1	6.2	7.9	14.2	58.2
West	4,730	3.6	0.1	0.1	0.5	0.9	1.7	2.9	4.6	7.1	8.9	15.6	50.9
Urbanization													
City Center	6,029	3.4	0.1	0.0	0.4	0.8	1.5	2.7	4.3	6.4	8.6	15.4	58.2
Suburban	9,381	3.4	0.0	0.1	0.5	0.9	1.7	2.8	4.4	6.5	8.4	14.0	53.7
Non-metropolitan	4,753	3.3	0.1	0.0	0.5	0.9	1.6	2.7	4.2	6.4	8.1	14.9	49.4

N = Sample size.
SE = Standard error.

Source: U.S. EPA analysis of 1994−1996, 1998 CSFII.

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Apples			Asparagus			Bananas			Beans		
Whole Population	20,607	30.5	0.45	0.01	1.4	0.01	0.00	48.1	0.35	0.01	44.9	0.27	0.01
Age Group													
Birth to 1 year	1,486	34.6	2.32	0.13	0.2	0.01	0.00	40.7	1.24	0.06	21.6	0.43	0.04
1 to 2 years	2,096	44.8	1.79	0.09	0.8	0.02	0.01	62.8	1.77	0.09	46.8	0.76	0.04
3 to 5 years	4,391	44.6	1.64	0.05	0.5	0.01	0.00	60.7	0.93	0.04	43.0	0.52	0.02
6 to 12 years	2,089	38.2	0.83	0.05	0.7	0.01	0.00	57.7	0.38	0.03	38.8	0.32	0.02
13 to 19 years	1,222	22.5	0.20	0.02	0.6	0.00	0.00	42.1	0.13	0.02	36.0	0.18	0.02
20 to 49 years	4,677	25.7	0.21	0.01	1.3	0.01	0.00	41.7	0.21	0.01	45.5	0.22	0.01
≥50 years	4,646	34.5	0.32	0.02	2.5	0.02	0.00	54.1	0.35	0.01	51.4	0.26	0.01
Season													
Fall	4,687	35.0	0.55	0.03	1.2	0.01	0.00	45.6	0.36	0.02	47.3	0.29	0.01
Spring	5,308	29.6	0.45	0.02	1.9	0.02	0.00	49.8	0.35	0.02	43.3	0.25	0.01
Summer	5,890	25.5	0.34	0.02	0.9	0.01	0.00	49.6	0.33	0.02	43.6	0.28	0.01
Winter	4,722	32.2	0.46	0.02	1.6	0.02	0.00	47.3	0.38	0.01	45.5	0.26	0.01
Race													
Asian, Pacific Islander	557	33.5	0.53	0.06	1.0	0.01	0.00	45.4	0.43	0.04	52.0	0.25	0.02
American Indian, Alaskan Native	177	31.0	0.60	0.12	2.5	0.02	0.01	44.1	0.39	0.05	37.8	0.26	0.06
Black	2,740	22.0	0.36	0.02	0.4	0.00	0.00	45.4	0.43	0.04	45.2	0.32	0.02
Other/NA	1,638	27.7	0.55	0.05	0.2	0.00	0.00	44.1	0.26	0.02	60.6	0.43	0.03
White	15,495	32.0	0.45	0.01	1.7	0.01	0.00	47.5	0.58	0.07	43.6	0.25	0.01
Region													
Midwest	4,822	34.5	0.47	0.02	1.5	0.01	0.00	51.1	0.35	0.02	43.6	0.26	0.01
Northeast	3,692	32.7	0.48	0.03	1.3	0.01	0.00	52.9	0.36	0.01	36.7	0.21	0.01
South	7,208	25.3	0.36	0.01	1.1	0.01	0.00	42.4	0.30	0.02	48.8	0.33	0.01
West	4,885	32.7	0.55	0.02	1.9	0.01	0.00	49.6	0.44	0.03	47.5	0.25	0.02
Urbanization													
City Center	6,164	28.9	0.42	0.02	1.7	0.01	0.00	48.4	0.36	0.02	46.2	0.29	0.01
Suburban	9,598	33.2	0.49	0.02	1.1	0.01	0.00	50.5	0.38	0.01	42.4	0.25	0.01
Non-metropolitan	4,845	27.0	0.39	0.02	1.5	0.01	0.00	42.3	0.28	0.03	48.7	0.30	0.02

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Beets			Berries and Small Fruit			Broccoli			Bulb Vegetables		
Whole Population	20,607	2.2	0.01	0.00	58.7	0.23	0.01	13.9	0.11	0.01	95.3	0.20	0.00
Age Group													
Birth to 1 year	1,486	0.4	0.01	0.01	16.5	0.13	0.02	3.5	0.07	0.02	33.4	0.07	0.01
1 to 2 years	2,096	0.7	0.01	0.00	66.2	0.91	0.05	12.0	0.25	0.03	93.3	0.30	0.01
3 to 5 years	4,391	0.8	0.01	0.00	72.7	0.72	0.03	10.7	0.18	0.01	95.8	0.27	0.01
6 to 12 years	2,089	0.8	0.01	0.00	73.4	0.40	0.03	11.0	0.14	0.02	97.3	0.21	0.01
13 to 19 years	1,222	0.7	0.00	0.00	55.4	0.15	0.02	8.3	0.06	0.01	97.7	0.19	0.01
20 to 49 years	4,677	1.9	0.00	0.00	53.1	0.14	0.01	14.7	0.10	0.01	97.4	0.21	0.01
≥50 years	4,646	4.6	0.02	0.00	63.0	0.19	0.01	17.3	0.11	0.01	93.4	0.17	0.00
Season													
Fall	4,687	2.0	0.01	0.00	57.4	0.18	0.01	14.6	0.12	0.01	95.8	0.21	0.01
Spring	5,308	2.3	0.01	0.00	60.6	0.27	0.02	13.5	0.11	0.02	95.4	0.20	0.01
Summer	5,890	2.3	0.01	0.00	60.4	0.29	0.02	13.7	0.11	0.01	94.3	0.19	0.01
Winter	4,722	2.3	0.01	0.00	56.6	0.20	0.01	13.7	0.10	0.01	95.5	0.21	0.01
Race													
Asian, Pacific Islander	557	2.7	0.00	0.00	41.7	0.28	0.06	25.7	0.23	0.06	95.0	0.38	0.03
American Indian, Alaskan Native	177	0.3	0.00	0.00	49.6	0.13	0.02	9.1	0.11	0.07	99.3	0.25	0.04
Black	2,740	0.9	0.00	0.00	50.6	0.14	0.01	13.2	0.14	0.02	92.9	0.16	0.01
Other/NA	1,638	1.3	0.01	0.00	47.5	0.21	0.03	8.2	0.09	0.02	95.0	0.31	0.02
White	15,495	2.5	0.01	0.00	61.6	0.25	0.01	14.0	0.10	0.01	95.6	0.19	0.00
Region													
Midwest	4,822	2.3	0.01	0.00	63.1	0.25	0.02	13.0	0.09	0.01	96.2	0.19	0.01
Northeast	3,692	2.4	0.01	0.00	63.2	0.24	0.02	15.3	0.13	0.01	94.5	0.19	0.01
South	7,208	1.7	0.01	0.00	53.3	0.19	0.01	13.1	0.11	0.01	94.4	0.18	0.01
West	4,885	2.8	0.01	0.00	58.7	0.28	0.03	14.6	0.12	0.02	96.3	0.25	0.01
Urbanization													
City Center	6,164	2.3	0.01	0.00	57.3	0.22	0.01	15.1	0.13	0.01	95.0	0.21	0.01
Suburban	9,598	2.2	0.01	0.00	62.0	0.27	0.02	14.9	0.12	0.01	95.7	0.20	0.01
Non-metropolitan	4,845	2.4	0.01	0.00	53.6	0.17	0.02	9.7	0.06	0.01	94.7	0.19	0.01

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994–1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Cabbage			Carrots			Citrus Fruits			Corn		
Whole Population	20,607	15.5	0.08	0.01	49.8	0.17	0.00	19.3	0.19	0.01	94.6	0.44	0.01
Age Group													
Birth to 1 year	1,486	1.0	0.01	0.00	12.3	0.17	0.03	2.5	0.07	0.02	46.0	0.48	0.03
1 to 2 years	2,096	8.0	0.06	0.01	46.8	0.41	0.02	15.5	0.47	0.05	96.5	1.13	0.05
3 to 5 years	4,391	8.9	0.07	0.01	46.2	0.34	0.02	18.2	0.50	0.03	98.7	1.24	0.03
6 to 12 years	2,089	9.5	0.06	0.01	44.4	0.22	0.01	16.0	0.26	0.02	98.9	0.87	0.03
13 to 19 years	1,222	9.0	0.04	0.01	40.3	0.11	0.01	12.3	0.11	0.02	95.7	0.43	0.02
20 to 49 years	4,677	16.0	0.07	0.01	50.2	0.14	0.01	18.1	0.12	0.01	94.7	0.32	0.01
≥50 years	4,646	22.8	0.12	0.01	58.1	0.17	0.01	27.1	0.23	0.01	94.2	0.26	0.01
Season													
Fall	4,687	16.2	0.07	0.01	53.9	0.19	0.01	16.6	0.16	0.01	94.2	0.42	0.01
Spring	5,308	15.1	0.08	0.01	46.5	0.17	0.01	20.3	0.20	0.01	94.5	0.44	0.02
Summer	5,890	14.5	0.08	0.01	44.3	0.14	0.01	15.8	0.08	0.01	95.1	0.50	0.02
Winter	4,722	16.3	0.08	0.01	54.5	0.18	0.01	24.6	0.33	0.02	94.8	0.41	0.02
Race													
Asian, Pacific Islander	557	33.9	0.24	0.04	59.4	0.28	0.04	23.4	0.35	0.07	85.6	0.32	0.04
American Indian, Alaskan Native	177	15.8	0.05	0.04	47.3	0.12	0.02	20.4	0.33	0.13	93.6	0.51	0.06
Black	2,740	15.9	0.14	0.03	36.6	0.10	0.01	13.0	0.15	0.02	93.7	0.49	0.02
Other/NA	1,638	9.5	0.02	0.01	46.2	0.21	0.02	22.4	0.37	0.06	92.6	0.70	0.05
White	15,495	15.2	0.07	0.00	51.9	0.18	0.01	20.0	0.18	0.01	95.3	0.42	0.01
Region													
Midwest	4,822	15.5	0.08	0.01	50.9	0.17	0.01	18.9	0.16	0.01	96.6	0.46	0.02
Northeast	3,692	13.4	0.08	0.01	53.8	0.18	0.01	22.4	0.21	0.02	93.3	0.40	0.01
South	7,208	16.8	0.09	0.01	44.9	0.14	0.01	15.1	0.14	0.01	94.4	0.44	0.01
West	4,885	15.5	0.06	0.01	52.8	0.21	0.01	23.7	0.28	0.02	94.1	0.47	0.02
Urbanization													
City Center	6,164	16.4	0.09	0.01	48.8	0.16	0.01	19.8	0.20	0.01	93.8	0.44	0.01
Suburban	9,598	16.0	0.07	0.00	52.3	0.19	0.01	20.0	0.19	0.01	94.8	0.45	0.01
Non-metropolitan	4,845	13.4	0.06	0.01	45.7	0.15	0.01	17.0	0.17	0.01	95.5	0.43	0.02

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Cucumbers			Cucurbits			Fruiting Vegetables			Leafy Vegetables		
Whole Population	20,607	40.1	0.10	0.01	48.9	0.40	0.02	93.8	0.82	0.01	90.1	0.59	0.01
Age Group													
Birth to 1 year	1,486	1.7	0.00	0.00	14.0	0.45	0.04	25.5	0.32	0.04	44.2	0.29	0.05
1 to 2 years	2,096	20.5	0.11	0.01	31.3	0.72	0.06	92.1	1.56	0.06	82.1	0.71	0.04
3 to 5 years	4,391	29.3	0.16	0.02	38.7	0.83	0.07	95.4	1.46	0.03	86.9	0.67	0.02
6 to 12 years	2,089	32.6	0.14	0.02	39.9	0.54	0.06	95.9	1.05	0.03	89.5	0.55	0.03
13 to 19 years	1,222	41.3	0.11	0.03	46.7	0.32	0.08	96.1	0.79	0.03	90.3	0.43	0.02
20 to 49 years	4,677	44.8	0.09	0.01	52.8	0.29	0.01	96.0	0.75	0.02	92.2	0.58	0.02
≥50 years	4,646	41.0	0.08	0.01	52.8	0.43	0.03	92.0	0.66	0.02	90.7	0.66	0.02
Season													
Fall	4,687	36.7	0.08	0.01	45.4	0.21	0.01	92.6	0.81	0.03	89.7	0.59	0.02
Spring	5,308	43.3	0.10	0.01	51.8	0.48	0.04	94.3	0.77	0.02	90.9	0.60	0.02
Summer	5,890	43.2	0.14	0.02	55.6	0.73	0.06	94.5	0.88	0.02	90.1	0.56	0.02
Winter	4,722	37.2	0.07	0.01	43.0	0.16	0.01	93.7	0.80	0.02	89.6	0.59	0.02
Race													
Asian, Pacific Islander	557	34.9	0.24	0.16	46.9	0.90	0.39	88.4	0.86	0.06	92.8	1.13	0.12
American Indian, Alaskan Native	177	41.0	0.09	0.03	51.3	0.53	0.13	98.2	0.91	0.08	89.3	0.52	0.17
Black	2,740	39.1	0.06	0.01	43.4	0.27	0.04	91.9	0.69	0.04	89.5	0.65	0.04
Other/NA	1,638	33.4	0.10	0.01	46.1	0.53	0.09	93.6	1.25	0.05	85.3	0.50	0.03
White	15,495	40.9	0.10	0.01	50.1	0.39	0.02	94.3	0.80	0.01	90.4	0.56	0.01
Region													
Midwest	4,822	42.1	0.10	0.01	49.6	0.37	0.03	94.8	0.81	0.02	92.1	0.55	0.03
Northeast	3,692	39.4	0.10	0.01	50.7	0.43	0.05	92.3	0.82	0.02	87.4	0.62	0.03
South	7,208	39.7	0.09	0.01	46.7	0.33	0.03	93.3	0.76	0.03	90.1	0.55	0.02
West	4,885	39.3	0.11	0.03	50.1	0.50	0.06	94.9	0.91	0.03	90.3	0.64	0.03
Urbanization													
City Center	6,164	39.7	0.09	0.00	48.3	0.34	0.02	93.9	0.84	0.03	89.2	0.64	0.02
Suburban	9,598	40.6	0.11	0.01	49.9	0.44	0.04	93.5	0.81	0.01	90.5	0.60	0.02
Non-metropolitan	4,845	39.7	0.10	0.01	47.8	0.37	0.03	94.3	0.80	0.04	90.5	0.46	0.03

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994–1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Legumes			Lettuce			Okra			Onions		
Whole Population	20,607	95.5	0.43	0.01	52.2	0.24	0.01	1.4	0.01	0.00	94.9	0.19	0.00
Age Group													
Birth to 1 year	1,486	51.7	1.21	0.06	1.1	0.00	0.00	0.2	0.00	0.00	32.8	0.07	0.01
1 to 2 years	2,096	96.9	1.30	0.08	23.3	0.14	0.01	1.3	0.01	0.00	93.0	0.29	0.01
3 to 5 years	4,391	98.3	0.85	0.06	33.4	0.21	0.01	0.8	0.01	0.00	95.6	0.26	0.01
6 to 12 years	2,089	98.1	0.48	0.03	41.7	0.22	0.01	1.3	0.01	0.00	96.8	0.20	0.01
13 to 19 years	1,222	94.9	0.27	0.02	55.2	0.22	0.02	0.8	0.00	0.00	97.3	0.18	0.01
20 to 49 years	4,677	95.7	0.34	0.01	60.1	0.27	0.01	1.3	0.01	0.00	97.1	0.20	0.01
≥50 years	4,646	96.2	0.40	0.01	51.4	0.23	0.01	2.1	0.01	0.00	93.2	0.16	0.00
Season													
Fall	4,687	96.0	0.44	0.02	50.6	0.23	0.01	1.7	0.01	0.00	95.5	0.20	0.01
Spring	5,308	95.3	0.40	0.02	54.5	0.25	0.01	1.1	0.01	0.00	95.0	0.19	0.01
Summer	5,890	95.2	0.43	0.02	51.7	0.23	0.01	1.7	0.01	0.00	94.0	0.18	0.00
Winter	4,722	95.5	0.44	0.02	52.1	0.24	0.01	1.0	0.01	0.00	95.3	0.20	0.01
Race													
Asian, Pacific Islander	557	96.1	0.76	0.09	48.1	0.28	0.05	4.8	0.01	0.01	94.9	0.37	0.03
American Indian, Alaskan Native	177	97.5	0.42	0.07	61.3	0.21	0.04	0.6	0.00	0.00	99.3	0.25	0.04
Black	2,740	95.6	0.50	0.04	42.7	0.15	0.01	2.4	0.01	0.00	92.6	0.16	0.01
Other/NA	1,638	93.5	0.55	0.04	52.1	0.25	0.02	0.6	0.00	0.00	95.0	0.30	0.02
White	15,495	95.6	0.40	0.01	53.8	0.25	0.01	1.2	0.01	0.00	95.3	0.18	0.00
Region													
Midwest	4,822	96.9	0.40	0.02	53.3	0.25	0.02	0.4	0.00	0.00	96.0	0.18	0.01
Northeast	3,692	93.4	0.38	0.02	49.3	0.24	0.01	0.8	0.00	0.00	94.0	0.18	0.01
South	7,208	96.1	0.47	0.02	50.7	0.21	0.01	2.6	0.01	0.00	94.1	0.18	0.01
West	4,885	95.0	0.44	0.02	56.0	0.27	0.01	1.2	0.00	0.00	96.1	0.24	0.01
Urbanization													
City Center	6,164	95.1	0.47	0.02	51.3	0.24	0.01	1.8	0.01	0.00	94.8	0.20	0.01
Suburban	9,598	95.4	0.41	0.01	53.0	0.26	0.01	1.0	0.01	0.00	95.3	0.19	0.01
Non-metropolitan	4,845	96.2	0.41	0.02	51.6	0.20	0.01	1.7	0.01	0.00	94.3	0.19	0.01

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Peaches			Pears			Peas			Peppers		
Whole Population	20,607	40.8	0.11	0.00	8.2	0.09	0.00	22.3	0.11	0.01	83.0	0.06	0.00
Age Group													
Birth to 1 year	1,486	24.4	0.85	0.08	15.9	0.73	0.07	29.5	0.47	0.04	15.6	0.01	0.00
1 to 2 years	2,096	50.7	0.47	0.04	17.2	0.40	0.04	28.3	0.34	0.03	77.5	0.05	0.01
3 to 5 years	4,391	55.4	0.26	0.02	16.6	0.26	0.03	20.5	0.21	0.02	84.6	0.05	0.00
6 to 12 years	2,089	54.7	0.14	0.02	17.5	0.14	0.01	17.2	0.12	0.01	85.1	0.05	0.00
13 to 19 years	1,222	39.1	0.06	0.01	5.9	0.03	0.01	14.0	0.07	0.01	84.8	0.04	0.00
20 to 49 years	4,677	34.5	0.05	0.00	4.4	0.04	0.00	21.3	0.08	0.01	86.9	0.08	0.01
≥50 years	4,646	44.1	0.10	0.01	9.0	0.07	0.01	28.4	0.10	0.01	78.9	0.06	0.01
Season													
Fall	4,687	35.9	0.07	0.01	9.6	0.11	0.01	24.1	0.10	0.01	81.3	0.07	0.01
Spring	5,308	42.9	0.10	0.01	7.7	0.07	0.00	20.2	0.10	0.01	84.8	0.06	0.00
Summer	5,890	46.6	0.17	0.01	6.8	0.07	0.01	19.8	0.10	0.01	83.1	0.06	0.00
Winter	4,722	37.9	0.09	0.01	8.7	0.10	0.01	24.9	0.13	0.01	83.0	0.06	0.00
Race													
Asian, Pacific Islander	557	32.2	0.07	0.02	9.2	0.13	0.03	41.0	0.15	0.02	70.9	0.08	0.01
American Indian, Alaskan Native	177	38.0	0.20	0.06	11.2	0.15	0.06	22.5	0.13	0.03	89.3	0.08	0.02
Black	2,740	39.4	0.10	0.01	5.6	0.06	0.01	20.9	0.13	0.02	82.8	0.04	0.01
Other/NA	1,638	35.2	0.13	0.02	8.3	0.11	0.02	19.8	0.07	0.01	81.7	0.12	0.01
White	15,495	41.8	0.11	0.01	8.6	0.09	0.00	21.9	0.10	0.01	83.6	0.06	0.00
Region													
Midwest	4,822	45.3	0.11	0.01	9.1	0.09	0.01	22.1	0.10	0.01	85.6	0.06	0.01
Northeast	3,692	44.0	0.10	0.01	9.4	0.10	0.01	24.7	0.13	0.02	79.0	0.07	0.01
South	7,208	35.8	0.11	0.01	6.5	0.07	0.01	19.9	0.10	0.01	82.1	0.05	0.00
West	4,885	41.1	0.11	0.01	8.9	0.10	0.01	24.0	0.10	0.01	85.4	0.08	0.01
Urbanization													
City Center	6,164	39.9	0.11	0.01	8.1	0.09	0.01	24.0	0.12	0.01	83.4	0.07	0.01
Suburban	9,598	43.1	0.11	0.01	8.8	0.10	0.01	22.3	0.11	0.01	82.2	0.06	0.00
Non-metropolitan	4,845	37.1	0.10	0.00	7.2	0.06	0.01	19.6	0.09	0.01	84.4	0.06	0.01

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Pome Fruit			Pumpkins			Root Tuber Vegetables			Stalk, Stem Vegetables		
Whole Population	20,607	34.7	0.54	0.01	1.8	0.01	0.00	99.2	1.42	0.02	19.4	0.05	0.00
Age Group													
Birth to 1 year	1,486	40.0	3.04	0.17	0.3	0.00	0.00	61.7	2.60	0.15	1.9	0.01	0.00
1 to 2 years	2,096	52.0	2.19	0.10	0.7	0.01	0.00	99.6	3.38	0.09	13.2	0.06	0.01
3 to 5 years	4,391	51.7	1.90	0.06	0.9	0.01	0.00	100.0	2.96	0.07	10.9	0.04	0.00
6 to 12 years	2,089	47.9	0.97	0.06	1.8	0.01	0.00	100.0	2.09	0.07	10.7	0.03	0.01
13 to 19 years	1,222	26.5	0.23	0.02	1.3	0.01	0.00	99.9	1.36	0.06	16.6	0.03	0.01
20 to 49 years	4,677	27.9	0.25	0.01	1.7	0.00	0.00	99.7	1.12	0.02	24.5	0.05	0.00
≥50 years	4,646	39.0	0.39	0.02	2.3	0.01	0.00	99.7	1.13	0.02	18.3	0.05	0.00
Season													
Fall	4,687	39.5	0.66	0.04	4.9	0.01	0.00	99.4	1.49	0.04	18.5	0.04	0.00
Spring	5,308	33.6	0.52	0.03	0.4	0.00	0.00	99.3	1.41	0.03	20.1	0.05	0.00
Summer	5,890	29.1	0.41	0.02	0.7	0.00	0.00	99.2	1.34	0.03	17.0	0.03	0.00
Winter	4,722	36.7	0.56	0.03	1.0	0.00	0.00	99.0	1.45	0.04	21.8	0.06	0.01
Race													
Asian, Pacific Islander	557	36.5	0.66	0.08	1.0	0.00	0.00	97.3	1.31	0.10	36.5	0.11	0.01
American Indian, Alaskan Native	177	39.5	0.75	0.14	1.2	0.00	0.00	99.7	1.71	0.30	21.6	0.05	0.02
Black	2,740	24.8	0.42	0.03	0.5	0.00	0.00	99.0	1.31	0.09	8.1	0.01	0.00
Other/NA	1,638	32.7	0.67	0.06	3.5	0.01	0.00	98.0	1.47	0.05	14.5	0.03	0.00
White	15,495	36.4	0.54	0.01	1.9	0.01	0.00	99.4	1.44	0.02	20.9	0.05	0.00
Region													
Midwest	4,822	38.9	0.55	0.03	2.4	0.01	0.00	99.5	1.57	0.05	22.1	0.05	0.00
Northeast	3,692	37.3	0.57	0.02	2.0	0.01	0.00	99.4	1.33	0.05	17.2	0.05	0.01
South	7,208	28.9	0.43	0.02	1.1	0.00	0.00	99.2	1.40	0.04	16.4	0.04	0.00
West	4,885	37.2	0.65	0.03	1.9	0.01	0.00	98.8	1.38	0.05	23.1	0.06	0.00
Urbanization													
City Center	6,164	33.2	0.51	0.02	1.5	0.00	0.00	99.0	1.34	0.04	19.6	0.05	0.00
Suburban	9,598	37.6	0.59	0.02	1.8	0.00	0.00	99.3	1.44	0.03	20.0	0.05	0.00
Non-metropolitan	4,845	30.7	0.45	0.03	2.0	0.01	0.00	99.4	1.52	0.06	17.8	0.04	0.00

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE	Percent Consuming	Mean	SE
		Strawberries			Stone Fruit			Tomatoes			Tropical Fruits		
Whole Population	20,607	32.4	0.06	0.00	44.5	0.17	0.01	84.4	0.74	0.01	58.3	0.43	0.01
Age Group													
Birth to 1 year	1,486	6.8	0.02	0.00	29.2	1.15	0.10	21.5	0.30	0.03	42.2	1.31	0.07
1 to 2 years	2,096	33.5	0.19	0.03	53.6	0.60	0.04	80.7	1.50	0.05	70.1	1.97	0.10
3 to 5 years	4,391	37.1	0.14	0.01	57.5	0.38	0.02	85.7	1.40	0.03	69.7	1.10	0.04
6 to 12 years	2,089	37.3	0.10	0.01	56.8	0.23	0.02	86.9	1.00	0.03	67.0	0.50	0.04
13 to 19 years	1,222	26.8	0.05	0.01	41.1	0.09	0.01	90.2	0.74	0.03	54.5	0.19	0.02
20 to 49 years	4,677	29.8	0.05	0.00	38.1	0.09	0.01	87.1	0.66	0.01	52.8	0.27	0.01
≥50 years	4,646	37.7	0.06	0.00	49.4	0.17	0.01	80.1	0.57	0.01	63.1	0.41	0.01
Season													
Fall	4,687	26.8	0.03	0.00	39.3	0.11	0.01	83.5	0.73	0.03	56.5	0.42	0.02
Spring	5,308	36.8	0.11	0.01	46.8	0.17	0.01	84.3	0.69	0.02	59.4	0.43	0.02
Summer	5,890	36.1	0.06	0.01	50.3	0.28	0.02	85.1	0.80	0.02	58.2	0.41	0.02
Winter	4,722	29.9	0.05	0.01	41.6	0.12	0.01	84.5	0.72	0.02	58.9	0.45	0.02
Race													
Asian, Pacific Islander	557	23.9	0.07	0.03	36.5	0.16	0.04	74.1	0.73	0.06	55.4	0.61	0.07
American Indian, Alaskan Native	177	28.2	0.03	0.02	39.2	0.24	0.07	89.2	0.82	0.07	54.1	0.43	0.05
Black	2,740	21.1	0.02	0.00	40.7	0.14	0.02	78.1	0.63	0.03	53.6	0.36	0.03
Other/NA	1,638	22.3	0.05	0.01	38.2	0.19	0.03	89.6	1.11	0.05	60.9	0.77	0.09
White	15,495	35.3	0.07	0.00	45.9	0.17	0.01	85.4	0.73	0.01	59.0	0.41	0.01
Region													
Midwest	4,822	34.9	0.07	0.01	49.9	0.18	0.01	85.5	0.74	0.02	60.1	0.40	0.03
Northeast	3,692	37.1	0.06	0.01	47.5	0.15	0.01	83.4	0.73	0.02	62.4	0.47	0.02
South	7,208	27.2	0.05	0.00	38.9	0.15	0.01	82.7	0.69	0.02	53.1	0.36	0.02
West	4,885	33.9	0.08	0.01	44.8	0.20	0.01	86.6	0.81	0.02	60.8	0.53	0.03
Urbanization													
City Center	6,164	29.7	0.05	0.01	43.5	0.17	0.01	84.1	0.75	0.02	58.8	0.46	0.02
Suburban	9,598	36.2	0.08	0.00	46.9	0.18	0.01	84.5	0.73	0.01	60.2	0.44	0.01
Non-metropolitan	4,845	28.1	0.05	0.01	40.6	0.15	0.01	84.4	0.73	0.03	53.0	0.34	0.03

Table 9-16. Per Capita Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Percent Consuming	Mean	SE
		White Potatoes		
Whole Population	20,607	91.3	0.89	0.02
Age Group				
Birth to 1 year	1,486	39.9	0.64	0.07
1 to 2 years	2,096	91.2	1.95	0.08
3 to 5 years	4,391	95.1	1.75	0.06
6 to 12 years	2,089	93.9	1.21	0.06
13 to 19 years	1,222	92.6	0.93	0.05
20 to 49 years	4,677	91.5	0.74	0.02
≥50 years	4,646	91.7	0.72	0.02
Season				
Fall	4,687	91.5	0.91	0.04
Spring	5,308	91.3	0.87	0.03
Summer	5,890	91.3	0.86	0.03
Winter	4,722	91.1	0.90	0.03
Race				
Asian, Pacific Islander	557	82.3	0.72	0.09
American Indian, Alaskan Native	177	92.7	1.29	0.32
Black	2,740	88.5	0.81	0.07
Other/NA	1,638	86.5	0.86	0.07
White	15,495	92.4	0.90	0.02
Region				
Midwest	4,822	94.5	1.00	0.03
Northeast	3,692	88.6	0.79	0.04
South	7,208	91.8	0.90	0.04
West	4,885	89.6	0.82	0.06
Urbanization				
City Center	6,164	89.5	0.81	0.04
Suburban	9,598	91.2	0.87	0.02
Non-metropolitan	4,845	94.2	1.02	0.06

N = Sample size.
SE = Standard error.
Note: Data for fruits and vegetables for which only small percentages of the population reported consumption may be less reliable than data for fruits and vegetables with higher percentages consuming.

Source: U.S. EPA analysis of 1994−1996, 1998 CSFII.

Table 9-17. Consumer-Only Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Apples			Asparagus			Bananas			Beans			Beets		
Whole Population	7,193	1.47	0.03	233	0.85	0.04	10,734	0.73	0.02	9,086	0.60	0.01	374	0.35	0
Age Group															
Birth to 1 year	496	6.71	0.31	3	2.59	1.16	605	3.04	0.12	313	2.00	0.16	6	1.42	0.9
1 to 2 years	947	4.00	0.15	19	1.99	0.54	1,328	2.82	0.12	996	1.63	0.08	13	0.98	0.3
3 to 5 years	1,978	3.68	0.08	23	1.37	0.32	2,746	1.54	0.06	1,909	1.22	0.04	36	0.9	0.2
6 to 12 years	792	2.17	0.12	13	1.77	0.43	1,214	0.66	0.05	833	0.82	0.05	16	0.66	0.3
13 to 19 years	271	0.90	0.06	4	0.56	0.08	511	0.30	0.04	472	0.49	0.03	9	0.2	0.1
20 to 49 years	1,171	0.82	0.03	58	0.79	0.08	1,887	0.50	0.01	2,153	0.48	0.01	93	0.23	0
≥ 50 years	1,538	0.92	0.04	113	0.77	0.07	2,443	0.65	0.02	2,410	0.52	0.02	201	0.38	0
Season															
Fall	1,841	1.57	0.06	44	0.80	0.13	2,292	0.79	0.04	2,122	0.60	0.02	90	0.25	0
Spring	1,818	1.52	0.07	91	0.90	0.07	2,856	0.70	0.03	2,311	0.59	0.02	92	0.45	0.1
Summer	1,801	1.32	0.06	36	0.66	0.12	3,124	0.66	0.03	2,539	0.65	0.02	104	0.34	0.1
Winter	1,733	1.44	0.05	62	0.94	0.10	2,462	0.80	0.03	2,114	0.57	0.02	88	0.33	0.1
Race															
Asian, Pacific Islander	182	1.59	0.12	5	0.62	0.15	265	0.95	0.10	265	0.48	0.05	16	0.04	0
American Indian, Alaskan Native	58	1.93	0.27	2	0.81	-	88	0.87	0.15	74	0.70	0.12	1	0.02	-
Black	762	1.62	0.12	8	1.01	0.64	1,288	0.59	0.05	1,205	0.71	0.04	18	0.29	0.1
Other/NA	536	2.00	0.13	5	0.31	0.09	865	1.21	0.11	911	0.71	0.04	16	0.39	0.2
White	5,655	1.42	0.03	213	0.86	0.05	8,228	0.71	0.02	6,631	0.58	0.01	323	0.36	0
Region															
Midwest	1,792	1.35	0.06	63	0.91	0.08	2,589	0.68	0.04	2,071	0.59	0.02	90	0.35	0.1
Northeast	1,385	1.46	0.05	43	0.72	0.10	2,122	0.68	0.02	1,342	0.56	0.02	78	0.42	0.1
South	2,201	1.44	0.05	64	1.07	0.09	3,356	0.70	0.04	3,465	0.68	0.02	99	0.29	0
West	1,815	1.67	0.06	63	0.69	0.04	2,667	0.89	0.03	2,208	0.52	0.03	107	0.33	0.1
Urbanization															
City Center	2,091	1.46	0.05	81	0.85	0.07	3,182	0.75	0.03	2,840	0.62	0.02	110	0.28	0
Suburban	3,647	1.49	0.05	97	0.78	0.07	5,303	0.75	0.02	3,957	0.58	0.01	171	0.39	0.1
Non-metropolitan	1,455	1.45	0.03	55	0.98	0.11	2,249	0.67	0.04	2,289	0.61	0.01	93	0.35	0

Table 9-17. Consumer-Only Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Berries and Small Fruits			Broccoli			Bulb Vegetables			Cabbage			Carrots		
Whole Population	12,206	0.40	0.01	2,474	0.80	0.03	18,738	0.21	0.00	2,633	0.50	0.03	9,513	0.34	0.01
Age Group															
Birth to 1 year	229	0.81	0.07	49	2.09	0.33	489	0.22	0.02	15	0.61	0.41	179	1.39	0.20
1 to 2 years	1,396	1.38	0.06	242	2.11	0.16	1,957	0.32	0.01	160	0.73	0.11	999	0.87	0.05
3 to 5 years	3,166	0.99	0.04	475	1.67	0.09	4,207	0.28	0.01	369	0.78	0.07	2,048	0.74	0.03
6 to 12 years	1,523	0.54	0.04	213	1.29	0.16	2,040	0.22	0.01	190	0.63	0.11	904	0.50	0.03
13 to 19 years	679	0.27	0.03	102	0.69	0.07	1,194	0.20	0.01	106	0.40	0.06	482	0.27	0.02
20 to 49 years	2,393	0.27	0.02	640	0.68	0.04	4,546	0.22	0.01	746	0.45	0.03	2,289	0.28	0.01
≥ 50 years	2,820	0.31	0.01	753	0.63	0.03	4,305	0.18	0.00	1,047	0.52	0.02	2,612	0.29	0.01
Season															
Fall	2,706	0.31	0.02	582	0.81	0.05	4,310	0.22	0.01	623	0.44	0.03	2,338	0.35	0.02
Spring	3,202	0.45	0.03	651	0.82	0.07	4,835	0.21	0.01	684	0.52	0.03	2,345	0.36	0.02
Summer	3,558	0.48	0.02	660	0.79	0.05	5,280	0.20	0.01	676	0.56	0.07	2,440	0.33	0.01
Winter	2,740	0.35	0.02	581	0.76	0.07	4,313	0.22	0.01	650	0.48	0.04	2,390	0.34	0.01
Race															
Asian, Pacific Islander	252	0.66	0.13	118	0.89	0.12	481	0.40	0.03	152	0.69	0.09	329	0.47	0.05
American Indian, Alaskan Native	85	0.26	0.04	16	1.18	0.43	169	0.25	0.04	18	0.34	0.13	82	0.26	0.03
Black	1,430	0.27	0.02	286	1.06	0.12	2,438	0.18	0.01	359	0.87	0.11	958	0.28	0.02
Other/NA	782	0.45	0.06	131	1.09	0.10	1,484	0.33	0.02	144	0.24	0.05	749	0.45	0.03
White	9,657	0.41	0.01	1,923	0.73	0.03	14,166	0.20	0.00	1,960	0.43	0.02	7,395	0.34	0.01
Region															
Midwest	3,042	0.40	0.03	533	0.66	0.03	4,457	0.20	0.01	629	0.49	0.04	2,313	0.34	0.02
Northeast	2,383	0.37	0.03	511	0.84	0.07	3,324	0.20	0.01	413	0.56	0.06	1,843	0.34	0.01
South	3,896	0.35	0.02	810	0.83	0.04	6,497	0.19	0.01	978	0.52	0.06	2,981	0.31	0.01
West	2,885	0.48	0.03	620	0.83	0.08	4,460	0.26	0.01	613	0.41	0.03	2,376	0.40	0.01
Urbanization															
City Center	3,525	0.38	0.02	741	0.83	0.06	5,547	0.22	0.01	794	0.58	0.07	2,759	0.34	0.01
Suburban	6,039	0.44	0.02	1,283	0.81	0.03	8,768	0.21	0.01	1,251	0.45	0.02	4,690	0.36	0.01
Non-metropolitan	2,642	0.31	0.03	450	0.64	0.05	4,423	0.20	0.01	588	0.48	0.04	2,064	0.32	0.01

Table 9-17. Consumer-Only Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Citrus Fruits			Corn			Cucumbers			Cucurbits			Fruiting Vegetables		
Whole Population	3,656	0.99	0.03	19,059	0.47	0.01	6,779	0.24	0.02	8,763	0.81	0.04	18,407	0.87	0.01
Age Group															
Birth to 1 year	37	2.79	0.53	671	1.05	0.07	25	0.28	0.11	213	3.19	0.29	371	1.24	0.11
1 to 2 years	336	3.06	0.20	2,027	1.17	0.05	439	0.52	0.05	682	2.29	0.17	1,927	1.70	0.06
3 to 5 years	751	2.75	0.15	4,334	1.26	0.03	1,266	0.56	0.05	1,694	2.15	0.17	4,180	1.53	0.03
6 to 12 years	324	1.60	0.12	2,064	0.88	0.03	667	0.43	0.06	833	1.34	0.15	2,014	1.10	0.03
13 to 19 years	157	0.90	0.15	1,176	0.45	0.01	500	0.26	0.06	563	0.69	0.16	1,176	0.82	0.03
20 to 49 years	841	0.68	0.04	4,415	0.34	0.01	2,033	0.20	0.01	2,400	0.55	0.03	4,489	0.78	0.02
≥ 50 years	1,210	0.84	0.03	4,372	0.28	0.01	1,849	0.21	0.01	2,378	0.81	0.05	4,250	0.71	0.02
Season															
Fall	761	0.93	0.06	4,342	0.44	0.01	1,374	0.22	0.02	1,778	0.46	0.03	4,186	0.87	0.03
Spring	1,002	0.97	0.05	4,909	0.47	0.02	1,906	0.23	0.01	2,408	0.94	0.07	4,755	0.82	0.02
Summer	815	0.53	0.04	5,423	0.52	0.02	2,070	0.32	0.05	2,855	1.32	0.10	5,262	0.93	0.02
Winter	1,078	1.32	0.06	4,385	0.44	0.02	1,429	0.20	0.02	1,722	0.36	0.03	4,204	0.85	0.03
Race															
Asian, Pacific Islander	117	1.50	0.19	454	0.37	0.05	134	0.68	0.43	217	1.92	0.79	439	0.98	0.06
American Indian, Alaskan Native	41	1.61	0.17	165	0.55	0.06	60	0.23	0.06	75	1.04	0.32	162	0.93	0.08
Black	369	1.15	0.08	2,502	0.52	0.02	858	0.17	0.01	987	0.62	0.08	2,398	0.75	0.04
Other/NA	347	1.66	0.16	1,475	0.76	0.05	413	0.30	0.03	633	1.14	0.19	1,447	1.34	0.05
White	2,782	0.89	0.03	14,463	0.44	0.01	5,314	0.24	0.01	6,851	0.77	0.03	13,961	0.85	0.01
Region															
Midwest	842	0.84	0.06	4,562	0.48	0.02	1,693	0.23	0.02	2,091	0.75	0.05	4,379	0.85	0.02
Northeast	754	0.94	0.06	3,377	0.43	0.01	1,191	0.25	0.02	1,614	0.85	0.08	3,254	0.88	0.02
South	998	0.94	0.04	6,648	0.46	0.01	2,356	0.22	0.02	2,905	0.70	0.06	6,416	0.81	0.03
West	1,062	1.20	0.07	4,472	0.49	0.02	1,539	0.29	0.07	2,153	0.99	0.12	4,358	0.96	0.03
Urbanization															
City Center	1,146	1.01	0.04	5,641	0.47	0.01	1,965	0.22	0.01	2,570	0.71	0.05	5,477	0.89	0.03
Suburban	1,738	0.97	0.04	8,886	0.47	0.01	3,151	0.26	0.03	4,119	0.89	0.07	8,563	0.86	0.01
Non-metropolitan	772	0.99	0.07	4,532	0.45	0.02	1,663	0.25	0.03	2,074	0.78	0.06	4,367	0.85	0.04

Table 9-17. Consumer-Only Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Leafy Vegetables			Legumes			Lettuce			Okra			Onions		
Whole Population	17,637	0.65	0.01	19,258	0.45	0.01	8,430	0.46	0.01	272	0.51	0.04	18,678	0.20	0.00
Age Group															
Birth to 1 year	639	0.65	0.11	754	2.34	0.11	15	0.17	0.02	4	1.50	0.54	481	0.22	0.02
1 to 2 years	1,729	0.87	0.05	2,037	1.34	0.08	481	0.58	0.04	29	0.64	0.19	1,948	0.31	0.01
3 to 5 years	3,815	0.77	0.03	4,308	0.86	0.06	1,415	0.62	0.03	34	1.16	0.32	4,200	0.27	0.01
6 to 12 years	1,860	0.62	0.03	2,045	0.49	0.03	858	0.53	0.02	21	0.62	0.15	2,030	0.21	0.01
13 to 19 years	1,101	0.47	0.02	1,168	0.29	0.02	669	0.40	0.03	12	0.43	0.13	1,190	0.19	0.01
20 to 49 years	4,308	0.63	0.02	4,477	0.36	0.01	2,693	0.45	0.01	62	0.44	0.06	4,533	0.21	0.01
≥ 50 years	4,185	0.72	0.02	4,469	0.41	0.01	2,299	0.45	0.01	110	0.50	0.05	4,296	0.17	0.00
Season															
Fall	4,046	0.66	0.03	4,412	0.46	0.02	1,894	0.46	0.02	58	0.39	0.04	4,300	0.21	0.01
Spring	4,579	0.66	0.02	4,952	0.42	0.02	2,279	0.46	0.02	66	0.47	0.09	4,815	0.20	0.01
Summer	4,964	0.62	0.02	5,476	0.45	0.02	2,325	0.45	0.01	106	0.65	0.08	5,265	0.19	0.01
Winter	4,048	0.66	0.02	4,418	0.46	0.02	1,932	0.46	0.02	42	0.53	0.13	4,298	0.21	0.01
Race															
Asian, Pacific Islander	469	1.22	0.12	503	0.79	0.09	191	0.58	0.09	15	0.20	0.06	480	0.39	0.03
American Indian, Alaskan Native	151	0.59	0.19	170	0.44	0.08	88	0.34	0.04	2	0.40	-	169	0.25	0.04
Black	2,367	0.73	0.04	2,563	0.52	0.04	884	0.35	0.02	67	0.63	0.08	2,431	0.17	0.01
Other/NA	1,329	0.59	0.04	1,478	0.58	0.05	643	0.49	0.04	15	0.70	0.25	1,484	0.32	0.02
White	13,321	0.62	0.01	14,544	0.42	0.01	6,624	0.47	0.01	173	0.51	0.05	14,114	0.19	0.00
Region															
Midwest	4,226	0.60	0.03	4,577	0.41	0.02	2,035	0.47	0.03	24	0.42	0.20	4,448	0.19	0.01
Northeast	3,081	0.71	0.03	3,421	0.40	0.02	1,396	0.49	0.02	22	0.50	0.18	3,308	0.19	0.01
South	6,174	0.61	0.02	6,771	0.49	0.02	2,830	0.41	0.02	178	0.58	0.05	6,479	0.19	0.01
West	4,156	0.71	0.04	4,489	0.47	0.03	2,169	0.49	0.03	48	0.30	0.07	4,443	0.25	0.01
Urbanization															
City Center	5,232	0.72	0.03	5,735	0.50	0.02	2,414	0.46	0.02	96	0.49	0.07	5,531	0.21	0.01
Suburban	8,220	0.67	0.02	8,950	0.43	0.02	3,999	0.49	0.01	102	0.59	0.07	8,739	0.20	0.01
Non-metropolitan	4,185	0.51	0.03	4,573	0.43	0.02	2,017	0.39	0.02	74	0.42	0.04	4,408	0.20	0.01

Table 9-17. Consumer-Only Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Peaches			Pears			Peas			Peppers			Pome Fruit		
Whole Population	9,069	0.26	0.01	2,355	1.06	0.04	4,661	0.48	0.02	16,093	0.08	0.00	8,316	1.55	0.03
Age Group															
Birth to 1 year	344	3.47	0.28	217	4.55	0.28	417	1.60	0.09	224	0.05	0.01	572	7.60	0.34
1 to 2 years	1,067	0.93	0.08	354	2.33	0.16	609	1.21	0.06	1,627	0.06	0.01	1,097	4.21	0.13
3 to 5 years	2,461	0.48	0.03	711	1.59	0.12	888	1.02	0.07	3,706	0.06	0.00	2,291	3.68	0.08
6 to 12 years	1,150	0.26	0.03	382	0.81	0.07	346	0.68	0.06	1,784	0.05	0.01	1,012	2.03	0.10
13 to 19 years	480	0.15	0.03	72	0.45	0.09	168	0.48	0.06	1,041	0.05	0.00	320	0.87	0.06
20 to 49 years	1,544	0.14	0.01	205	0.80	0.05	959	0.37	0.02	4,068	0.09	0.01	1,274	0.88	0.03
≥ 50 years	2,023	0.22	0.01	414	0.81	0.04	1,274	0.37	0.02	3,643	0.08	0.01	1,750	1.00	0.03
Season															
Fall	1,841	0.20	0.02	596	1.15	0.08	1,172	0.43	0.02	3,643	0.08	0.01	2,102	1.67	0.07
Spring	2,439	0.23	0.02	590	0.86	0.05	1,120	0.51	0.03	4,212	0.07	0.01	2,102	1.54	0.06
Summer	2,815	0.37	0.02	585	1.05	0.06	1,213	0.48	0.02	4,568	0.08	0.01	2,092	1.40	0.06
Winter	1,974	0.22	0.02	584	1.14	0.09	1,156	0.52	0.04	3,670	0.07	0.01	2,020	1.53	0.06
Race															
Asian, Pacific Islander	200	0.23	0.04	56	1.43	0.21	192	0.35	0.04	344	0.11	0.01	209	1.82	0.14
American Indian, Alaskan Native	68	0.54	0.17	23	1.31	0.60	51	0.59	0.10	144	0.09	0.03	73	1.89	0.29
Black	1,146	0.25	0.03	244	1.09	0.15	612	0.64	0.05	2,150	0.05	0.01	878	1.68	0.12
Other/NA	590	0.38	0.07	171	1.39	0.22	323	0.38	0.04	1,233	0.15	0.01	624	2.05	0.14
White	7,065	0.26	0.01	1,861	1.02	0.04	3,483	0.48	0.02	12,222	0.07	0.00	6,532	1.48	0.03
Region															
Midwest	2,283	0.25	0.02	625	0.96	0.06	1,108	0.46	0.02	3,920	0.07	0.01	2,094	1.42	0.07
Northeast	1,778	0.22	0.02	470	1.04	0.06	923	0.52	0.05	2,711	0.08	0.01	1,598	1.54	0.05
South	2,849	0.30	0.02	648	1.08	0.10	1,526	0.51	0.03	5,579	0.06	0.01	2,535	1.50	0.05
West	2,159	0.26	0.02	612	1.17	0.08	1,104	0.43	0.04	3,883	0.10	0.01	2,089	1.74	0.07
Urbanization															
City Center	2,640	0.27	0.02	686	1.06	0.06	1,480	0.50	0.03	4,780	0.09	0.01	2,408	1.54	0.05
Suburban	4,457	0.26	0.01	1,205	1.12	0.06	2,179	0.48	0.03	7,436	0.07	0.00	4,224	1.58	0.06
Non-metropolitan	1,972	0.27	0.01	464	0.89	0.05	1,002	0.45	0.04	3,877	0.07	0.01	1,684	1.48	0.03

Table 9-17. Consumer-Only Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Pumpkins			Root Tuber Vegetables			Stalk, Stem Vegetables			Strawberries			Stone Fruit		
Whole Population	299	0.30	0.02	19,997	1.44	0.02	3,095	0.24	0.01	6,675	0.20	0.01	9,786	0.38	0.01
Age Group															
Birth to 1 year	3	1.06	0.71	916	4.21	0.19	24	0.56	0.22	96	0.26	0.06	418	3.95	0.25
1 to 2 years	15	1.08	0.51	2,087	3.40	0.09	272	0.48	0.05	729	0.57	0.08	1,130	1.13	0.08
3 to 5 years	36	0.56	0.10	4,388	2.96	0.07	502	0.38	0.03	1,710	0.38	0.03	2,556	0.66	0.03
6 to 12 years	37	0.52	0.11	2,089	2.09	0.07	218	0.32	0.04	783	0.28	0.02	1,194	0.41	0.03
13 to 19 years	14	0.42	0.16	1,221	1.36	0.06	190	0.20	0.03	326	0.18	0.03	508	0.21	0.03
20 to 49 years	89	0.24	0.02	4,664	1.12	0.02	1,079	0.20	0.01	1,330	0.15	0.02	1,715	0.23	0.01
≥ 50 years	105	0.22	0.01	4,632	1.14	0.02	810	0.27	0.02	1,701	0.15	0.01	2,265	0.34	0.02
Season															
Fall	193	0.29	0.02	4,565	1.50	0.04	720	0.22	0.02	1,250	0.13	0.01	1,987	0.27	0.02
Spring	22	0.65	0.18	5,151	1.43	0.03	825	0.25	0.01	1,911	0.30	0.03	2,627	0.35	0.02
Summer	40	0.22	0.06	5,690	1.35	0.03	796	0.20	0.01	2,060	0.17	0.02	3,029	0.56	0.03
Winter	44	0.25	0.04	4,591	1.46	0.03	754	0.26	0.02	1,454	0.16	0.02	2,143	0.29	0.02
Race															
Asian, Pacific Islander	4	0.33	0.07	518	1.35	0.10	158	0.29	0.03	149	0.29	0.11	218	0.44	0.08
American Indian, Alaskan Native	3	0.11	0.01	174	1.71	0.30	32	0.25	0.05	50	0.11	0.04	73	0.60	0.18
Black	12	0.34	0.05	2,642	1.32	0.09	188	0.18	0.03	550	0.11	0.02	1,184	0.34	0.04
Other/NA	43	0.21	0.08	1,561	1.50	0.05	172	0.21	0.02	367	0.22	0.06	649	0.50	0.08
White	237	0.31	0.02	15,102	1.45	0.02	2,545	0.24	0.01	5,559	0.20	0.01	7,662	0.38	0.01
Region															
Midwest	87	0.31	0.01	4,709	1.58	0.05	883	0.22	0.02	1,668	0.20	0.01	2,469	0.36	0.02
Northeast	62	0.30	0.09	3,598	1.34	0.05	467	0.26	0.03	1,381	0.16	0.02	1,912	0.32	0.02
South	70	0.28	0.03	6,998	1.41	0.04	908	0.24	0.02	1,952	0.18	0.02	3,060	0.39	0.02
West	80	0.30	0.05	4,692	1.40	0.05	837	0.24	0.02	1,674	0.23	0.03	2,345	0.45	0.03
Urbanization															
City Center	76	0.31	0.05	5,961	1.36	0.04	891	0.25	0.02	1,772	0.18	0.02	2,845	0.38	0.02
Suburban	137	0.26	0.02	9,315	1.45	0.03	1,492	0.23	0.01	3,517	0.22	0.01	4,808	0.38	0.02
Non-metropolitan	86	0.36	0.04	4,721	1.53	0.07	712	0.24	0.02	1,386	0.17	0.03	2,133	0.36	0.01

Table 9-17. Consumer-Only Intake of Individual Fruits and Vegetables Based on 1994−1996, 1998 CSFII (g/kg-day, edible portion, uncooked weight) (continued)

Population Group	*N*	Mean	SE	*N*	Mean	SE	*N*	Mean	SE
	Tomatoes			Tropical Fruits			White Potatoes		
Whole Population	16,403	0.87	0.01	12,539	0.73	0.02	18,261	0.97	0.02
Age Group									
Birth to 1 year	315	1.42	0.13	630	3.09	0.12	577	1.60	0.15
1 to 2 years	1,684	1.86	0.06	1,476	2.81	0.12	1,918	2.14	0.09
3 to 5 years	3,764	1.63	0.03	3,106	1.57	0.05	4,147	1.84	0.06
6 to 12 years	1,832	1.15	0.03	1,407	0.75	0.05	1,963	1.29	0.06
13 to 19 years	1,098	0.82	0.03	652	0.35	0.04	4,271	0.81	0.02
20 to 49 years	4,053	0.75	0.02	2,428	0.51	0.02	2,664	0.75	0.02
≥ 50 years	3,657	0.72	0.01	2,840	0.64	0.02	4,254	0.78	0.02
Season									
Fall	3,732	0.87	0.03	2,748	0.75	0.03	4,205	1.00	0.04
Spring	4,173	0.82	0.02	3,291	0.72	0.03	4,703	0.96	0.03
Summer	4,731	0.94	0.02	3,595	0.70	0.02	5,190	0.94	0.03
Winter	3,767	0.86	0.03	2,905	0.77	0.03	4,163	0.99	0.03
Race									
Asian, Pacific Islander	373	0.99	0.08	314	1.10	0.13	428	0.88	0.09
American Indian, Alaskan Native	146	0.92	0.08	103	0.79	0.12	162	1.40	0.33
Black	2,017	0.80	0.04	1,541	0.67	0.05	2,365	0.92	0.08
Other/NA	1,369	1.24	0.05	1,034	1.26	0.10	1,353	1.00	0.06
White	12,498	0.85	0.01	9,547	0.69	0.02	13,953	0.98	0.02
Region									
Midwest	3,915	0.87	0.02	2,989	0.67	0.04	4,436	1.06	0.04
Northeast	2,906	0.88	0.02	2,412	0.75	0.02	3,199	0.90	0.03
South	5,629	0.83	0.02	4,016	0.67	0.03	6,415	0.98	0.04
West	3,953	0.93	0.02	3,122	0.87	0.03	4,211	0.92	0.06
Urbanization									
City Center	4,867	0.89	0.02	3,750	0.79	0.03	5,337	0.91	0.04
Suburban	7,647	0.87	0.01	6,092	0.73	0.02	8,488	0.96	0.02
Non-metropolitan	3,889	0.86	0.03	2,697	0.64	0.05	4,436	1.08	0.06

N = Sample size.
SE = Standard error.
Note: Data for fruits and vegetables for which only small percentages of the population reported consumption may be less reliable than data for fruits and vegetables with higher percentages consuming.

Source: U.S. EPA analysis of 1994−1996, 1998 CSFII.

Table 9-18. Per Capita Intake of Exposed Fruits Based on 1994−1996 CSFII (g/kg-day, as-consumed)

Population Group	Percent consuming	Mean	SE	Percentile									
				1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Whole Population	39.9	1.5	0.06	0	0	0	0	0	1.3	3.8	7.0	22.6	101.3
Age Group													
0 to 5 months	32.8	6.4	1.6	0	0	0	0	0	6.9	23.7	40.2	48.5	63.4
6 to 12 months	79.9	14.1	1.2	0	0	0	4.5	11.8	19.3	32.7	37.1	63.7	69.6
<1 years	54.9	10.0	1.0	0	0	0	0	4.5	16.5	30.1	38.8	58.5	69.6
1 to 2 years	69.2	10.9	0.47	0	0	0	0	5.7	15.7	29.4	39.0	65.8	101.3
3 to 5 years	59.8	5.6	0.28	0	0	0	0	2.7	8.1	15.8	22.2	35.0	77.1
6 to 11 years	50	2.2	0.14	0	0	0	0	0	3.1	6.3	8.8	17.6	32.2
12 to 19 years	32.7	0.87	0.09	0	0	0	0	0	1.1	2.9	4.9	8.8	14.9
20 to 39 years	29.6	0.58	0.05	0	0	0	0	0	0.60	2.0	3.1	6.2	16.0
40 to 69 years	40	0.69	0.03	0	0	0	0	0	0.94	2.2	3.3	6.3	18.6
≥70 years	51.6	0.97	0.06	0	0	0	0	0.11	1.3	2.8	4.1	7.5	18.6
Season													
Fall	40.7	1.6	0.11	0	0	0	0	0	1.4	4.0	7.0	22.5	101.3
Spring	40.4	1.5	0.10	0	0	0	0	0	1.3	3.8	7.1	20.9	77.1
Summer	39.7	1.5	0.11	0	0	0	0	0	1.3	3.7	6.9	23.7	81.1
Winter	38.6	1.5	0.12	0	0	0	0	0	1.2	3.4	7.1	21.2	83.6
Urbanization													
Central City	39.6	1.6	0.11	0	0	0	0	0	1.4	4.3	7.3	23.6	83.6
Non-	33.6	1.1	0.10	0	0	0	0	0	0.8	2.8	5.4	16.5	65.8
Suburban	42.9	1.6	0.08	0	0	0	0	0	1.4	3.9	7.5	23.7	101.3
Race													
Asian	41.6	1.7	0.35	0	0	0	0	0	1.8	5.0	6.4	22.1	61.9
Black	29	1.3	0.17	0	0	0	0	0	0.67	3.3	6.3	22.4	101.3
Native American	33.2	1.2	0.57	0	0	0	0	0	0.99	3.8	6.4	14.0	40.8
Other/NA	38.2	1.9	0.29	0	0	0	0	0	1.4	4.3	8.8	28.4	69.6
White	41.7	1.5	0.06	0	0	0	0	0	1.3	3.7	7.1	21.6	83.6
Region													
Midwest	42.2	1.5	0.11	0	0	0	0	0	1.4	3.7	6.7	21.0	101.3
Northeast	45.3	1.8	0.13	0	0	0	0	0	1.5	4.5	7.5	24.6	81.1
South	33.3	1.3	0.10	0	0	0	0	0	0.86	3.2	6.4	20.4	81.3
West	42.9	1.6	0.12	0	0	0	0	0	1.6	4.2	7.5	22.1	83.6

SE = Standard error.

Source: U.S. EPA analysis of the 1994−1996 CSFII.

Table 9-19. Per Capita Intake of Protected Fruits Based on 1994−1996 CSFII (g/kg-day, as-consumed)

Population Group	Percent consuming	Mean	SE	Percentile									
				1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Whole Population	53	1.9	0.04	0	0	0	0	0.38	2.6	5.4	8.1	16.3	113.4
Age Group													
0 to 5 months	10.8	0.5	0.34	0	0	0	0	0	0	1.3	4.3	7.7	12.5
6 to 12 months	49	3.1	0.58	0	0	0	0	0	4.4	8.3	11.2	26.8	30.3
<1 years	28.7	1.7	0.39	0	0	0	0	0	2.0	6.0	8.3	16.6	30.3
1 to 2 years	61.8	6.5	0.31	0	0	0	0	3.6	9.2	17.8	24.2	39.0	113.4
3 to 5 years	56.2	4.4	0.22	0	0	0	0	2.1	6.7	12.1	17.2	27.9	66.5
6 to 11 years	50.7	2.7	0.17	0	0	0	0	0.17	3.8	8.1	11.4	19.8	31.7
12 to 19 years	47.3	1.8	0.12	0	0	0	0	0	2.6	5.4	8.4	15.4	27.0
20 to 39 years	48	1.4	0.07	0	0	0	0	0	1.9	4.3	6.3	11.8	39.3
40 to 69 years	56.5	1.4	0.04	0	0	0	0	0.61	2.2	4.1	5.5	9.7	45.8
≥70 years	68.7	1.8	0.07	0	0	0	0	1.3	2.8	4.7	5.9	9.2	27.6
Season													
Fall	50.8	1.8	0.08	0	0	0	0	0.06	2.3	5.0	7.3	16.1	75.7
Spring	53.5	2.0	0.08	0	0	0	0	0.46	2.6	5.4	8.8	18.7	47.4
Summer	52.4	2.0	0.08	0	0	0	0	0.29	2.7	5.5	8.4	15.9	113.4
Winter	55.4	1.9	0.07	0	0	0	0	0.61	2.6	5.5	8.0	15.1	52.0
Urbanization													
Central City	55.5	2.1	0.07	0	0	0	0	0.67	2.8	5.8	8.5	17.2	66.5
Non-metropolitan	45.6	1.5	0.08	0	0	0	0	0	1.9	4.4	7.0	14.9	61.9
Suburban	54.6	2.0	0.06	0	0	0	0	0.59	2.7	5.5	8.3	16.6	113.4
Race													
Asian	62.3	3.0	0.30	0	0	0	0	1.5	4.1	8.1	11.7	18.7	64.0
Black	48.1	1.8	0.11	0	0	0	0	0	2.2	5.4	8.1	16.6	50.1
Native American	44.1	2.0	0.65	0	0	0	0	0	2.5	6.8	7.9	17.0	61.9
Other/NA	60.3	2.8	0.21	0	0	0	0	0.98	3.9	7.5	10.8	22.4	113.4
White	53	1.8	0.04	0	0	0	0	0.37	2.5	5.1	7.7	15.7	75.7
Region													
Midwest	51	1.8	0.08	0	0	0	0	0.08	2.4	5.3	7.8	16.5	75.7
Northeast	62.5	2.4	0.09	0	0	0	0	1.1	3.2	6.2	9.5	19.5	66.5
South	47.6	1.6	0.06	0	0	0	0	0	2.1	4.7	7.1	14.9	65.7
West	55.3	2.0	0.09	0	0	0	0	0.61	2.8	5.8	8.4	15.3	113.4

SE = Standard error.

Source: U.S. EPA analysis of the 1994−1996 CSFII.

Table 9-20. Per Capita Intake of Exposed Vegetables (g/kg-day, as-consumed)

Population Group	Percent consuming	Mean	SE	Percentile									
				1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Whole Population	79.2	1.3	0.02	0	0	0	0.11	0.80	1.9	3.4	4.4	7.6	45.0
Age Group													
0 to 5 months	6	0.48	0.62	0	0	0	0	0	0	0	4.6	11.8	12.5
6 to 12 months	40.8	2.0	0.49	0	0	0	0	0	3.1	5.8	10.3	14.7	19.0
<1 years	22.3	1.2	0.37	0	0	0	0	0	0	5.0	7.4	14.7	19.0
1 to 2 years	63.3	2.0	0.11	0	0	0	0	0.59	2.7	5.8	8.6	14.9	45.0
3 to 5 years	67.8	1.6	0.08	0	0	0	0	0.67	2.2	4.4	6.4	12.8	25.1
6 to 11 years	70.8	1.2	0.06	0	0	0	0	0.60	1.6	3.4	4.8	8.1	19.6
12 to 19 years	77.4	0.97	0.04	0	0	0	0.06	0.53	1.3	2.5	3.6	5.8	13.0
20 to 39 years	82.6	1.3	0.03	0	0	0	0.15	0.81	1.8	3.2	4.1	6.9	18.4
40 to 69 years	84	1.4	0.02	0	0	0	0.28	0.97	2.0	3.3	4.3	6.4	16.4
≥70 years	83.2	1.5	0.05	0	0	0	0.31	1.09	2.1	3.6	4.4	7.2	20.1
Season													
Fall	79.6	1.3	0.03	0	0	0	0.12	0.79	1.9	3.4	4.4	7.3	45.0
Spring	78.8	1.3	0.03	0	0	0	0.09	0.79	1.8	3.3	4.3	7.9	25.1
Summer	81.2	1.5	0.03	0	0	0	0.16	0.92	2.1	3.5	4.8	8.6	25.1
Winter	77.4	1.2	0.03	0	0	0	0.08	0.74	1.7	3.2	4.2	7.0	20.9
Urbanization													
Central City	79.5	1.4	0.03	0	0	0	0.12	0.83	2.0	3.5	4.5	8.1	25.1
Non-metropolitan	78	1.2	0.03	0	0	0	0.08	0.69	1.6	2.9	4.1	6.9	45.0
Suburban	79.6	1.4	0.02	0	0	0	0.12	0.85	1.9	3.4	4.5	7.8	25.1
Race													
Asian	82.2	2.1	0.15	0	0	0	0.34	1.39	3.0	4.9	7.1	13.0	20.1
Black	76.3	1.2	0.04	0	0	0	0.04	0.66	1.7	3.3	4.1	7.2	20.9
Native American	70.7	1.3	0.40	0	0	0	0	0.45	1.5	2.0	4.5	9.5	45.0
Other/NA	73.8	1.3	0.08	0	0	0	0	0.73	1.8	3.3	4.7	10.4	24.8
White	80.1	1.3	0.02	0	0	0	0.13	0.82	1.9	3.3	4.4	7.2	25.1
Region													
Midwest	80.2	1.3	0.03	0	0	0	0.12	0.81	1.8	3.3	4.4	7.1	24.8
Northeast	79.4	1.4	0.04	0	0	0	0.12	0.91	2.1	3.5	4.6	7.9	25.1
South	79.6	1.3	0.03	0	0	0	0.12	0.78	1.8	3.2	4.2	7.1	25.1
West	77.5	1.3	0.04	0	0	0	0.08	0.78	1.8	3.4	4.6	8.9	45.0

SE = Standard error.

Source: U.S. EPA analysis of the 1994−1996 CSFII.

Table 9-21. Per Capita Intake of Protected Vegetables Based on 1994−1996 CSFII (g/kg-day, as-consumed)

Population Group	Percent consuming	Mean	SE	Percentile									
				1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Whole Population	38.0	0.63	0.02	0	0	0	0	0	0.73	2.0	3.1	6.6	45.8
Age Group													
0 to 5 months	10.3	0.49	0.41	0	0	0	0	0	0	1.4	3.9	9.2	11.0
6 to 12 months	34.8	2.2	0.55	0	0	0	0	0	4.4	7.3	9.6	19.5	23.1
<1 years	21.8	1.3	0.37	0	0	0	0	0	0	5.4	7.8	11.9	23.1
1 to 2 years	40.8	1.5	0.13	0	0	0	0	0	1.9	4.4	7.0	14.2	27.8
3 to 5 years	38.2	1.1	0.09	0	0	0	0	0	1.4	3.5	5.4	10.3	18.0
6 to 11 years	38.8	0.78	0.07	0	0	0	0	0	1.0	2.6	3.9	7.5	26.5
12 to 19 years	30.4	0.46	0.06	0	0	0	0	0	0.44	1.5	2.4	5.8	21.6
20 to 39 years	36.7	0.53	0.04	0	0	0	0	0	0.61	1.7	2.7	5.5	23.6
40 to 69 years	41.2	0.56	0.03	0	0	0	0	0	0.73	1.7	2.6	4.8	45.8
≥70 years	42.2	0.65	0.05	0	0	0	0	0	0.86	2.0	3.1	5.7	21.5
Season													
Fall	37.9	0.62	0.04	0	0	0	0	0	0.71	2.1	3.2	5.9	21.6
Spring	37.8	0.62	0.04	0	0	0	0	0	0.67	1.8	2.9	7.6	23.6
Summer	39.3	0.67	0.04	0	0	0	0	0	0.85	1.9	3.1	6.3	45.8
Winter	37.1	0.61	0.04	0	0	0	0	0	0.71	1.9	3.0	6.9	27.8
Urbanization													
Central City	38.9	0.70	0.04	0	0	0	0	0	0.78	2.1	3.4	7.3	45.8
Non-metropolitan	39.7	0.62	0.04	0	0	0	0	0	0.75	1.9	3.1	6.0	25.8
Suburban	36.6	0.59	0.03	0	0	0	0	0	0.68	1.9	2.9	5.9	27.8
Race													
Asian	45.4	0.85	0.14	0	0	0	0	0	1.1	2.7	4.1	7.8	23.3
Black	36.2	0.72	0.07	0	0	0	0	0	0.77	2.2	3.5	7.9	45.8
Native American	32.0	0.34	0.13	0	0	0	0	0	0.13	1.6	2.0	3.5	5.3
Other/NA	50.4	1.1	0.10	0	0	0	0	0.04	1.5	3.4	5.2	10.0	26.5
White	37.2	0.57	0.02	0	0	0	0	0	0.68	1.8	2.8	5.9	27.8
Region													
Midwest	36.3	0.57	0.04	0	0	0	0	0	0.62	1.8	2.9	5.6	21.5
Northeast	37.5	0.61	0.05	0	0	0	0	0	0.75	1.8	2.9	6.3	27.8
South	38.5	0.66	0.03	0	0	0	0	0	0.78	2.1	3.1	6.3	45.8
West	39.5	0.67	0.04	0	0	0	0	0	0.75	2.1	3.3	7.8	23.1

SE = Standard error.

Source: U.S. EPA analysis of the 1994−1996 CSFII.

Table 9-22. Per Capita Intake of Root Vegetables Based on 1994−1996 CSFII (g/kg-day, as-consumed)

Population Group	Percent consuming	Mean	SE	Percentile									
				1st	5th	10th	25th	50th	75th	90th	95th	99th	Max
Whole Population	75.4	1.2	0.02	0	0	0	0.03	0.75	1.7	3.0	4.1	7.6	83.3
Age Group													
0 to 5 months	12	0.96	0.61	0	0	0	0	0	0	3.9	8.3	11.9	21.9
6 to 12 months	56.9	2.8	0.45	0	0	0	0	0.80	4.6	8.0	10.4	16.6	32.9
<1 years	33	1.8	0.36	0	0	0	0	0	2.3	6.9	9.6	15.6	32.9
1 to 2 years	67.5	2.6	0.13	0	0	0	0	1.5	3.6	6.8	8.3	16.8	83.3
3 to 5 years	71.9	2.2	0.09	0	0	0	0	1.4	3.2	5.5	7.1	14.1	32.1
6 to 11 years	73.8	1.6	0.06	0	0	0	0	1.0	2.3	4.2	5.3	9.5	20.6
12 to 19 years	76.4	1.3	0.05	0	0	0	0.09	0.82	1.8	3.0	4.0	7.7	22.5
20 to 39 years	77.5	1.1	0.03	0	0	0	0.10	0.73	1.6	2.7	3.5	6.0	16.6
40 to 69 years	77.2	0.99	0.02	0	0	0	0.08	0.68	1.5	2.5	3.2	4.8	15.1
≥70 years	73.2	1.1	0.04	0	0	0	0	0.70	1.6	2.7	3.4	5.3	9.8
Season													
Fall	77.3	1.3	0.04	0	0	0	0.09	0.83	1.8	3.1	4.2	8.1	83.3
Spring	75.9	1.2	0.03	0	0	0	0.05	0.73	1.7	3.1	4.3	7.7	30.0
Summer	74	1.2	0.03	0	0	0	0	0.73	1.6	2.9	3.9	7.4	25.8
Winter	74.4	1.2	0.03	0	0	0	0	0.74	1.7	3.0	4.1	7.4	34.3
Urbanization													
Central City	71.9	1.2	0.03	0	0	0	0	0.66	1.6	2.9	4.2	7.3	83.3
Non-metropolitan	78.5	1.4	0.04	0	0	0	0.14	0.89	1.9	3.2	4.5	9.5	34.3
Suburban	76.4	1.2	0.02	0	0	0	0.07	0.77	1.7	3.0	4.0	7.2	26.1
Race													
Asian	64.2	0.97	0.10	0	0	0	0	0.37	1.3	2.8	4.0	7.1	17.3
Black	68.9	1.1	0.05	0	0	0	0	0.62	1.4	2.9	4.2	7.6	32.9
Native American	71.1	1.4	0.27	0	0	0	0	1.0	1.9	2.8	3.0	11.2	34.3
Other/NA	67	1.1	0.10	0	0	0	0	0.50	1.4	2.8	3.7	9.6	83.3
White	77.5	1.3	0.02	0	0	0	0.09	0.81	1.8	3.1	4.2	7.5	32.1
Region													
Midwest	79.4	1.4	0.04	0	0	0	0.16	0.90	2.0	3.4	4.6	8.6	26.1
Northeast	72.3	1.1	0.03	0	0	0	0	0.64	1.5	2.9	3.8	7.1	20.7
South	77	1.3	0.03	0	0	0	0.09	0.81	1.8	3.0	4.1	7.6	83.3
West	71.3	1.1	0.03	0	0	0	0	0.61	1.5	2.8	3.7	6.9	34.3

SE = Standard error.

Source: U.S. EPA analysis of the 1994−1996 CSFII.

Table 9-23. Quantity (as-consumed) of Fruits and Vegetables Consumed per Eating Occasion and the Percentage of Individuals Consuming These Foods in Two Days

Food category	Percent Consuming[a]	Quantity Consumed per Eating Occasion (gram)		Consumer-Only Quantity Consumed per Eating Occasion at Specified Percentiles (gram)[a]						
		Average	SE	5	10	25	50	75	90	95
Raw vegetables										
Cucumbers	10.8	48	3	7	14	16	29	54	100	157
Lettuce	53.3	41	1	7	8	13	27	55	91	110
Mixed lettuce-based salad	2.2	97	6	11	18	55	74	123	167	229
Carrots	14.1	33	1	5	7	14	27	40	61	100
Tomatoes	32.0	53	1	15	20	27	40	61	93	123
Coleslaw	5.0	102	3	18	32	55	91	134	179	183
Onions	14.4	23	1	3	7	10	15	28	41	60
Cooked vegetables										
Broccoli	7.3	119	4	23	35	61	92	156	232	275
Carrots	5.8	72	2	13	19	36	65	78	146	156
Total tomato sauce	54.3	34	1	1	2	7	17	40	80	124
String beans	13.2	90	2	17	31	52	68	125	136	202
Peas	6.1	86	3	11	21	40	80	120	167	170
Corn	15.1	101	2	20	33	55	82	123	171	228
French-fried potatoes	25.5	83	1	28	35	57	70	112	125	140
Home-fried and hash-browned potatoes	8.9	135	3	36	47	70	105	192	284	308
Baked potatoes	12.4	120	2	48	61	92	106	143	184	217
Boiled potatoes	5.3	157	5	34	52	91	123	197	308	368
Mashed potatoes	15.0	188	3	46	61	105	156	207	397	413
Dried beans and peas	8.0	133	3	22	33	64	101	173	259	345
Baked beans	4.7	171	6	24	47	84	126	235	314	385
Fruits										
Raw oranges	7.9	132	2	42	64	95	127	131	183	253
Orange juice	27.2	268	4	124	124	187	249	311	447	498
Raw apples	15.6	135	2	46	68	105	134	137	209	211
Applesauce and cooked apples	4.6	134	4	31	59	85	121	142	249	254
Apple juice	7.0	271	7	117	120	182	242	307	481	525
Raw bananas	20.8	111	1	55	58	100	117	118	135	136

[a] = Percent consuming at least once in two days.
SE = Standard error of the mean.
Source: Smiciklas-Wright et al. (2002) (based on 1994−1996 CSFII data).

Table 9-24. Quantity (as-consumed) of Fruits and Vegetables Consumed per Eating Occasion and Percentage of Individuals Consuming These Foods in Two Days, by Food

Food category	Quantity consumed per eating occasion (grams)											
	2 to 5 years			6 to 11 years			12 to 19 years					
	Male and Female (N = 2,109)			Male and Female (N = 1,432)			Male (N = 696)			Female (N = 702)		
	PC	Mean	SE	PC	Mean	SE	PC	Mean	SE	PC	Mean	SE
Raw Vegetables												
Carrots	10.4	27	2	17.8	32	2	9.2	35	6	11.9	32	4
Cucumbers	6.4	32	4	6.6	39	6	6.1	71[a]	22[a]	6.8	48	11
Lettuce	34.0	17	1	40.8	26	1	56.0	32	3	52.3	34	2
Onions	3.9	9	2	4.5	17	2	11.1	28	4	7.9	23	4
Tomatoes	14.8	31	2	14.0	42	4	25.7	49	5	23.9	44	3
Cooked Vegetables												
Beans (string)	16.8	50	2	12.1	71	6	8.3	85	9	7.6	78	5
Broccoli	7.2	61	3	5.6	102	16	3.9	127[a]	17[a]	5.7	109[a]	14[a]
Carrots	6.0	48	4	3.8	46	5	2.8	81[a]	16[a]	2.1	75[a]	17[a]
Corn	18.9	68	3	22.2	79	4	12.8	125	9	12.3	100	6
Peas	8.4	48	3	6.8	72	9	3.6	115[a]	15[a]	2.4	93[a]	17[a]
Potatoes (French-fried)	32.7	52	1	33.7	67	2	41.7	97	3	38.1	81	4
Potatoes (home-fried and hash-browned)	9.3	85	5	10.1	93	6	10.1	145	13	6.1	138	13
Potatoes (baked)	7.6	70	4	8.2	95	6	8.6	152	15	8.8	115	10
Potatoes (boiled)	4.8	81	9	2.7	103[a]	17[a]	2.0	250[a]	40[a]	3.2	144[a]	16[a]
Potatoes (mashed)	14.8	118	6	13.3	162	12	14.6	245	16	11.9	170	17
Fruits												
Apples (raw)	26.8	106	2	21.9	123	3	11.7	149	9	12.4	129	5
Apples (cooked and applesauce)	10.1	118	5	9.0	130	7	2.3	153[a]	19[a]	2.6	200[a]	47[a]
Apple juice	26.3	207	5	12.2	223	10	7.8	346	22	8.5	360	44
Bananas (raw)	25.0	95	2	16.5	105	3	10.3	122	6	8.4	119	5
Oranges (raw)	11.1	103	5	10.5	114	5	4.3	187[a]	38[a]	5.4	109[a]	8[a]
Orange juice	34.4	190	4	30.9	224	6	30.8	354	16	29.5	305	11

Table 9-24. Quantity (as-consumed) of Fruits and Vegetables Consumed Per Eating Occasion and Percentage of Individuals Consuming These Foods in Two Days, by Food (continued)

Food category	Quantity consumed per eating occasion (grams)																	
	20 to <40 years						40 to <60 years						≥60 years					
	Male (*N* = 1,543)			Female (*N* = 1,449)			Male (*N* = 1,663)			Female (*N* = 1,694)			Male (*N* = 1,545)			Female (*N* = 1,429)		
	PC	Mean	SE	PC	Mean	SE	PC	Mean	SE	PC	Mean	SE	PC	Mean	SE	PC	Mean	SE
Raw Vegetables																		
Carrots	12.3	35	4	15.4	38	4	14.4	35	2	18.1	31	2	13.6	29	2	12.7	27	1
Cucumbers	10.5	62	12	10.4	45	4	12.5	47	4	15.7	41	3	14.2	51	4	13.2	45	3
Lettuce	63.4	40	2	57.6	44	2	55.5	48	2	59.1	48	1	48.1	47	2	46.1	42	2
Onions	17.9	27	2	14.7	22	1	19.6	26	1	18.3	19	1	19.0	19	1	15.6	19	1
Tomatoes	33.1	57	2	32.3	49	2	38.1	60	2	42.4	53	1	40.0	62	3	41.0	52	2
Cooked Vegetables																		
Beans (string)	10.6	111	5	12.5	89	6	13.7	114	6	13.4	93	4	18.3	99	4	19.7	78	3
Broccoli	7.6	152	13	6.7	129	13	7.8	127	7	7.6	114	7	8.5	117	7	10.9	107	6
Carrots	5.0	79	7	5.3	69	6	6.7	83	7	6.4	66	4	9.6	78	4	9.0	75	4
Corn	12.7	122	5	15.3	98	5	17.1	133	6	13.5	90	3	14.2	109	4	13.0	83	5
Peas	4.4	109	10	4.9	82	9	7.4	113	7	6.3	79	7	8.4	88	7	9.4	73	5
Potatoes (French-fried)	35.3	107	2	23.9	79	3	20.6	89	2	16.8	72	3	11.2	76	3	8.1	58	3
Potatoes (home-fried/hash-browned)	9.5	160	10	8.8	129	7	11.	174	10	6.4	119	7	10.4	152	8	7.1	110	9
Potatoes (baked)	11.4	154	7	11.1	126	5	13.0	133	3	16.5	112	3	17.9	115	3	18.1	100	4
Potatoes (boiled)	3.9	185	16	2.9	162	15	6.3	209	12	7.0	142	9	11.0	166	6	10.2	131	5
Potatoes (mashed)	14.7	269	12	13.5	167	5	16.0	225	11	14.3	156	7	19.7	173	6	18.1	140	5
Fruits																		
Apples (raw)	6.6	153	8	6.3	126	6	7.4	148	8	8.3	132	5	8.9	133	5	11.2	129	4
Apples (cooked and applesauce)	24.3	373	20	23.2	289	12	24.1	285	10	25.2	231	6	30.2	213	5	31.7	196	5
Apple juice	12.1	161	6	12.9	134	3	14.1	145	3	16.2	136	4	17.6	145	8	16.1	128	3
Bananas (raw)	1.3	153[a]	31[a]	2.4	155[a]	21[a]	3.1	142	12	3.9	125	10	8.1	135	10	9.2	121	7
Oranges (raw)	4.2	345	20	4.7	302	19	4.7	358	33	3.2	259	21	4.8	233	11	5.0	225	13
Orange juice	14.4	126	2	18.5	112	2	21.9	125	3	24.4	111	2	36.5	105	2	34.0	96	2

[a] Indicates a statistic that is potentially unreliable because of a small sample size and a large SE.
PC = Percent consuming at least once in two days.
SE = Standard error of the mean.
N = Sample size.

Source: Smiciklas-Wright et al. (2002) (based on 1994−1996 CSFII data).

Table 9-25. Consumption of Major Food Groups: Median Servings (and ranges) by Demographic and Health Characteristics, for Older Adults

Subject Characteristic		*N*	Fruits and Vegetables (servings per day)
Sex			
	Female	80	5.7 (1.5−8.1)
	Male	50	4.5 (0.8−8.8)
Ethnicity[a]			
	African American	44	4.5 (0.8−8.0)
	European American	47	6.0 (1.5−8.0)
	Native American	39	4.5 (1.6−8.8)
Age			
	70 to 74 years	42	4.5 (1.6−8.1)
	75 to 79 years	36	5.6 (0.8−8.0)
	80 to 84 years	36	5.6 (1.5−8.8)
	≥ 85 years	16	5.4 (1.8−8.0)
Marital Status			
	Married	49	4.5 (1.6−8.0)
	Not Married	81	5.6 (0.8−8.8)
Education			
	8th grade or less	37	5.0 (1.5−8.1)
	9th to 12th grades	47	4.5 (0.8−8.0)
	> High School	46	6.0 (1.5−8.8)
Dentures			
	Yes	83	5.4 (1.5−8.8)
	No	47	4.7 (0.8−8.0)
Chronic Diseases			
	0	7	7.0 (5.2−8.8)
	1	31	5.4 (1.5−8.0)
	2	56	5.4 (1.6−8.1)
	3	26	4.5 (2.0−8.0)
	4+	10	5.5 (0.8−8.0)
Weight[b]			
	130 pounds	18	6.0 (1.8−8.0)
	131 to 150 pounds	32	5.5 (1.5−8.0)
	151 to 170 pounds	27	5.7 (1.7−8.1)
	171 to 190 pounds	22	5.6 (1.8−8.8)
	191 pounds	29	4.5 (0.8−8.0)

[a] $p < 0.05$.
[b] Two missing values.
N = Number of individuals.

Source: Vitolins et al. (2002).

Table 9-26. Characteristics of the Feeding Infants and Toddlers Study (FITS) Sample Population

	Sample Size	Percentage of Sample
Sex		
Male	1,549	51.3
Female	1,473	48.7
Age of Child		
4 to 6 months	862	28.5
7 to 8 months	483	16.0
9 to 11 months	679	22.5
12 to 14 months	374	12.4
15 to 18 months	308	10.2
19 to 24 months	316	10.4
Child's Ethnicity		
Hispanic or Latino	367	12.1
Non-Hispanic or Latino	2,641	87.4
Missing	14	0.5
Child's Race		
White	2,417	80.0
Black	225	7.4
Other	380	12.6
Urbanicity		
Urban	1,389	46.0
Suburban	1,014	33.6
Rural	577	19.1
Missing data	42	1.3
Household Income		
Under $10,000	48	1.6
$10,000 to $14,999	48	1.6
$15,000 to $24,999	221	7.3
$25,000 to $34,999	359	11.9
$35,000 to $49,999	723	23.9
$50,000 to $74,999	588	19.5
$75,000 to $99,999	311	10.3
$100,000 and Over	272	9.0
Missing	452	14.9
Receives WIC		
Yes	821	27.2
No	2,196	72.6
Missing	5	0.2
Sample Size (Unweighted)	3,022	100.0

WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Source: Devaney et al. (2004).

Table 9-27. Percentage of Infants and Toddlers Consuming Different Types of Vegetables

Food Group/Food	Percentage of Infants and Toddlers Consuming at Least Once in a Day					
	4 to 6 months	7 to 8 months	9 to 11 months	12 to 14 months	15 to 18 months	19 to 24 months
Any Vegetable	39.9	66.5	72.6	76.5	79.2	81.6
Baby Food Vegetables	35.7	54.5	34.4	12.7	3.0	1.6
Cooked Vegetables	5.2	17.4	45.9	66.3	72.9	75.6
Raw Vegetables	0.5	1.6	5.5	7.9	14.3	18.6
Types of Vegetables[a]						
Dark Green Vegetables[b]	0.1	2.9	4.2	5.0	10.4	7.8
Deep Yellow Vegetables[c]	26.5	39.3	29.0	24.0	13.6	13.4
White Potatoes	3.6	12.4	24.1	33.2	42.0	40.6
French Fries and Other Fried Potatoes	0.7	2.9	8.6	12.9	19.8	25.5
Other Starchy Vegetables[d]	6.5	10.9	16.9	17.3	20.8	24.2
Other Vegetables	11.2	25.9	35.1	39.1	45.6	43.3

[a] Totals include commercial baby food, cooked vegetables, and raw vegetables.

[b] Reported dark green vegetables include broccoli, spinach and other greens, and romaine lettuce.

[c] Reported deep yellow vegetables include carrots, pumpkin, sweet potatoes, and winter squash.

[d] Reported starchy vegetables include corn, green peas, immature lima beans, black-eyed peas (not dried), cassava, and rutabaga.

Source: Fox et al. (2004).

Table 9-28. Top Five Vegetables Consumed by Infants and Toddlers

Top Vegetables by Age Group[a]	Percentage Consuming at Least Once in a Day
4 to 6 months	
Baby Food Carrots	9.6
Baby Food Sweet Potatoes	9.1
Baby Food Squash	8.1
Baby Food Green Beans	7.2
Baby Food Peas	5.0
7 to 8 months	
Baby Food Carrots	14.2
Baby Food Sweet Potatoes	12.9
Baby Food Squash	12.9
Baby Food Green Beans	11.2
Baby Food Mixed/Garden Vegetables	10.1
9 to 11 months	
Cooked Green Beans	9.7
Mashed/Whipped Potatoes	9.0
French Fries/Other Fried Potatoes	8.6
Baby Food Mixed/Garden Vegetables	8.4
Cooked Carrots	8.0
12 to 14 months	
Cooked Green Beans	18.2
French Fries/Other Fried Potatoes	12.9
Cooked Carrots	11.5
Mashed/Whipped Potatoes	10.3
Cooked Peas	8.4
15 to 18 months	
French Fries/Other Fried Potatoes	19.8
Cooked Green Beans	16.7
Cooked Peas	13.9
Cooked Tomatoes/Tomato Sauce	13.7
Mashed/Whipped Potatoes	12.4
19 to 24 months	
French Fries/Other Fried Potatoes	25.5
Cooked Green Beans	16.8
Cooked Corn	15.2
Cooked Peas	11.4
Cooked Tomatoes/Tomato Sauce	9.4

[a] Baby food vegetables include single vegetables (majority of vegetables reported) as well as mixtures with the named vegetables the predominant vegetable, e.g., broccoli and cauliflower or broccoli and carrots.

Source: Fox et al. (2004).

Table 9-29. Percentage of Infants and Toddlers Consuming Different Types of Fruits

Food Group/Food	Percentage of Infants and Toddlers Consuming at Least Once in a Day					
	4 to 6 months	7 to 8 months	9 to 11 months	12 to 14 months	15 to 18 months	19 to 24 months
Any Fruit	41.9	75.5	75.8	77.2	71.8	67.3
Baby Food Fruit	39.1	67.9	44.8	16.2	4.2	1.8
Non-Baby Food Fruit	5.3	14.3	44.2	67.1	69.4	66.8
Types of Non-Baby Food Fruit						
Canned Fruit	1.4	5.8	21.6	31.9	25.1	20.2
Packed in Syrup	0.7	0.7	8.1	14.9	12.7	8.1
Packed in Juice or Water	0.7	4.5	13.5	18.5	11.3	11.4
Unknown Pack	0.0	0.7	1.5	1.2	3.1	1.2
Fresh Fruit	4.4	9.5	29.5	52.1	55.0	54.6
Dried Fruit	0.0	0.4	2.1	3.5	7.1	9.4
Types of Fruit[a]						
Apples	18.6	33.1	31.6	27.5	19.8	22.4
Bananas	16.0	30.6	34.5	37.8	32.4	30.0
Berries	0.1	0.6	5.3	6.6	11.3	7.7
Citrus Fruits	0.2	0.4	1.6	4.9	7.3	5.1
Melons	0.6	1.0	4.4	7.3	7.2	9.6

[a] Totals include all baby food and non-baby food fruits.

Source: Fox et al. (2004).

Table 9-30. Top Five Fruits Consumed by Infants and Toddlers

Top Fruits by Age Group[a]	Percentage Consuming at Least Once in a Day
4 to 6 months	
Baby Food Applesauce	17.5
Baby Food Bananas	13.0
Baby Food Pears	7.5
Baby Food Peaches	7.4
Fresh Banana	0.3
7 to 8 months	
Baby Food Applesauce	29.0
Baby Food Bananas	25.2
Baby Food Pears	18.2
Baby Food Peaches	13.1
Fresh Banana	6.6
9 to 11 months	
Fresh Banana	19.0
Baby Food Applesauce	17.7
Baby Food Bananas	16.8
Baby Food Pears	12.4
Canned Applesauce	11.1
12 to 14 months	
Fresh Banana	33.0
Canned Applesauce	15.2
Fresh Grapes	9.0
Fresh Apple	8.8
Canned Peaches	7.2
Canned Fruit Cocktail	7.2
15 to 18 months	
Fresh Banana	30.5
Fresh Grapes	13.2
Fresh Apple	11.2
Fresh Strawberries	10.6
Canned Peaches	8.9
19 to 24 months	
Fresh Banana	29.6
Fresh Apple	15.0
Fresh Grapes	11.2
Raisins	9.0
Fresh Strawberries	7.6

[a] Baby food fruits include single fruits (majority of fruits reported) as well as mixtures with the named fruit as the predominant fruit, e.g., pears and raspberries or prunes with pears. Baby food fruits with tapioca and other baby food dessert fruits were counted as desserts.

Source: Fox et al. (2004).

Table 9-31. Characteristics of Women, Infants, and Children (WIC) Participants and Non-Participants[a] (percentages)

	Infants 4 to 6 months		Infants 7 to 11 months		Toddlers 12 to 24 months	
	WIC Participant	Non-Participant	WIC Participant	Non-Participant	WIC Participant	Non-Participant
Sex						
Male	55	54	55	51	57	52
Female	45	46[b]	45	49[b]	43	48[b]
Child's Ethnicity						
Hispanic or Latino	20	11	24	8	22	10
Non-Hispanic or Latino	80	89[b]	76	92[b]	78	89[b]
Child's Race						
White	63	84	63	86	67	84
Black	15	4	17	5	13	5
Other	22	11	20	9[b]	20	11[c]
Child In Daycare						
Yes	39	38	34	46	43	53
No	61	62[b]	66	54[b]	57	47[b]
Age of Mother						
14 to 19 years	18	1	13	1	9	1
20 to 24 years	33	13	38	11	33	14
25 to 29 years	29	29	23	30	29	26
30 to 34 years	9	33	15	36	18	34
>35 years	9	23	11	21	11	26
Missing	2	2[b]	1	1[b]	0	1[b]
Mother's Education						
11th Grade or Less	23	2	15	2	17	3
Completed High School	35	19	42	20	42	19
Some Postsecondary	33	26	32	27	31	28
Completed College	7	53	9	51	9	48
Missing	2	1[b]	2	0[b]	1	2[b]
Parent's Marital Status						
Married	49	93	57	93	58	88
Not Married	50	7	42	7	41	11
Missing	1	1	1	0[b]	1	1[c]
Mother or Female Guardian Works						
Yes	46	51	45	60	55	61
No	53	48	54	40	45	38
Missing	1	1[b]	1	0[b]	0	1[b]
Urbanicity						
Urban	34	55	37	50	35	48
Suburban	36	31	31	34	35	35
Rural	28	13	30	15	28	16
Missing	2	1	2	1	2	2
Sample Size (Unweighted)	265	597	351	808	205	791

[a] χ^2 tests were conducted to test for statistical significance in the differences between WIC participants and non-participants within each age group for each variable. The results of the χ^2 tests are listed next to the variable under the column labeled non-participants for each of the three age groups.

[b] $p < 0.01$ non-participants significantly different from WIC participants on the variable.

[c] $p < 0.05$ non-participants significantly different from WIC participants on the variable.

WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Source: Ponza et al. (2004).

Table 9-32. Food Choices for Infants and Toddlers by Women, Infants, and Children (WIC) Participation Status

	Infants 4 to 6 months		Infants 7 to 11 months		Toddlers 12 to 24 months	
	WIC Participant	Non-Participant	WIC Participant	Non-Participant	WIC Participant	Non-Participant
Vegetables						
Any Vegetable	40.2	39.8	68.2	70.7	77.5	80.2
Baby Food Vegetables	32.9	37.0	38.2	45.0	4.8	4.7
Cooked Vegetables	8.0	3.9[a]	33.8	33.8	73.1	72.3
Raw Vegetables	1.4	0.1[b]	3.6	4.1	11.8	15.4
Dark Green Vegetables	0.4	0.0	2.9	4.0	6.3	8.4
Deep Yellow Vegetables	23.2	28.1	30.1	34.8	12.5	16.9
Other Starchy Vegetables	6.5	6.4	12.9	15.2	21.1	21.5
Potatoes	6.0	2.4[a]	20.7	18.2	43.1	38.3
Fruits						
Any Fruit	47.8	39.2[a]	64.7	81.0[b]	58.5	74.6[b]
Baby Food Fruits	43.8	36.9	48.4	57.4[a]	3.8	6.5
Non-Baby Food Fruit	8.1	4.0	22.9	35.9[b]	56.4	70.9[b]
Fresh Fruit	5.4	3.8	14.3	24.3[b]	43.6	57.0[b]
Canned Fruit	3.4	0.5[b]	10.3	17.3[b]	22.3	25.3
Sample Size (unweighted)	265	597	351	808	205	791

[a] = p <0.05 non-participants significantly different from WIC participants.
[b] = p <0.01 non-participants significantly different from WIC participants.
WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Source: Ponza et al. (2004).

Table 9-33. Average Portion Sizes per Eating Occasion of Fruits and Vegetables Commonly Consumed by Infants From the 2002 Feeding Infants and Toddlers Study

Food Group	Reference Unit	4 to 5 months (*N* = 624)	6 to 8 months (*N* = 708)	9 to 11 months (*N* = 687)
		Mean ± SE		
Fruits and Juices				
All fruits	tablespoon	3.6 ± 0.19	4.7 ± 0.11	5.8 ± 0.17
Baby food fruit	tablespoon	3.3 ± 0.16	4.6 ± 0.11	5.6 ± 0.17
Baby food peaches	tablespoon	3.6 ± 0.37	4.4 ± 0.26	5.3 ± 0.36
Baby food pears	tablespoon	3.5 ± 0.46	4.5 ± 0.21	6.0 ± 0.40
Baby food bananas	tablespoon	3.4 ± 0.23	5.0 ± 0.21	5.9 ± 0.35
Baby food applesauce	tablespoon	3.7 ± 0.29	4.6 ± 0.17	5.6 ± 0.25
Canned fruit	tablespoon	-	4.5 ± 0.59	4.8 ± 0.25
Fresh fruit	tablespoon	-	5.3 ± 0.52	6.4 ± 0.37
100% juice	fluid ounce	2.5 ± 0.17	2.8 ± 0.11	3.1 ± 0.09
Apple/apple blends	fluid ounce	2.7 ± 0.22	2.9 ± 0.13	3.2 ± 0.11
Grape	fluid ounce	-	2.6 ± 0.19	3.1 ± 0.21
Pear	fluid ounce	-	2.6 ± 0.29	3.1 ± 0.28
Vegetables				
All vegetables	tablespoon	3.8 ± 0.20	5.8 ± 0.16	5.6 ± 0.20
Baby food vegetables	tablespoon	4.0 ± 0.20	5.9 ± 0.16	6.6 ± 0.21
Baby food green beans	tablespoon	3.5 ± 0.33	5.1 ± 0.28	6.1 ± 0.50
Baby food squash	tablespoon	4.3 ± 0.47	5.6 ± 0.30	6.9 ± 0.41
Baby food sweet	tablespoon	4.3 ± 0.31	6.1 ± 0.34	7.2 ± 0.69
Baby food carrots	tablespoon	3.5 ± 0.33	5.6 ± 0.27	6.7 ± 0.48
Cooked vegetables, excluding French fries	tablespoon	-	4.2 ± 0.47	3.8 ± 0.31
Deep yellow vegetables	tablespoon	-	3.2 ± 0.59	3.2 ± 0.39
Mashed potatoes	tablespoon	-	4.1 ± 0.67	2.8 ± 0.37
Green beans	tablespoon	-	3.2 ± 0.62	5.0 ± 0.61

\- = Cell size was too small to generate a reliable estimate.
N = Number of respondents.
SE = Standard error.

Source: Fox et al. (2006).

Table 9-34. Average Portion Sizes per Eating Occasion of Fruits and Vegetables Commonly Consumed by Toddlers From the 2002 Feeding Infants and Toddlers Study

Food Group	Reference Unit	12 to 14 months (*N* = 371)	15 to 18 months (*N* = 312)	19 to 24 months (*N* = 320)
		Mean ± SE		
Fruits and Juices				
All fruits	cup	0.4 ± 0.02	0.5 ± 0.03	0.6 ± 0.03
Canned fruit	cup	0.3 ± 0.02	0.4 ± 0.03	0.4 ± 0.04
Fresh fruit	cup	0.4 ± 0.02	0.5 ± 0.03	0.6 ± 0.03
Fresh apple	cup, slice	0.4 ± 0.05	0.6 ± 0.07	0.8 ± 0.14
	1 medium	0.3 ± 0.04	0.5 ± 0.06	0.6 ± 0.11
Fresh banana	cup, slice	0.4 ± 0.02	0.5 ± 0.03	0.5 ± 0.03
	1 medium	0.6 ± 0.03	0.7 ± 0.03	0.7 ± 0.04
Fresh grapes	cup	0.2 ± 0.01	0.3 ± 0.03	0.3 ± 0.02
100% juice	fluid ounce	3.7 ± 0.15	5.0 ± 0.20	5.1 ± 0.18
Orange/orange blends	fluid ounce	3.3 ± 0.38	4.5 ± 0.33	5.2 ± 0.35
Apple/apple blends	fluid ounce	3.6 ± 0.21	4.5 ± 0.29	4.9 ± 0.27
Grape	fluid ounce	3.6 ± 0.38	5.6 ± 0.43	4.7 ± 0.31
Vegetables				
All vegetables	cup	0.4 ± 0.02	0.4 ± 0.03	0.4 ± 0.02
Cooked vegetables, excluding French fries	cup	0.3 ± 0.03	0.3 ± 0.03	0.3 ± 0.02
Deep yellow vegetables	cup	0.2 ± 0.03	0.3 ± 0.05	0.3 ± 0.05
Corn	cup	0.2 ± 0.03	0.2 ± 0.03	0.2 ± 0.03
Peas	cup	0.2 ± 0.02	0.2 ± 0.02	0.2 ± 0.02
Green beans	cup	0.4 ± 0.05	0.4 ± 0.05	0.3 ± 0.03
Mashed potatoes	cup	0.3 ± 0.05	0.4 ± 0.05	0.3 ± 0.05
Baked/boiled potatoes	cup	0.3 ± 0.05	0.4 ± 0.06	-
French fries	cup	0.4 ± 0.05	0.6 ± 0.05	0.6 ± 0.05

\- Cell size too small to generate reliable estimate.
N = Number of respondents.
SE = Standard error of the mean.

Source: Fox et al. (2006).

Table 9-35. Percentage of Hispanic and Non-Hispanic Infants and Toddlers Consuming Different Types of Fruits and Vegetables on a Given Day

	Age 4 to 5 months		Age 6 to 11 months		Age 12 to 24 months	
	Hispanic (*N* = 84)	Non-Hispanic (*N* = 538)	Hispanic (*N* = 163)	Non-Hispanic (*N* = 1,228)	Hispanic (*N* = 124)	Non-Hispanic (*N* = 871)
Fruits						
Any Fruit or 100% Fruit Juice	45.0	35.9	86.2	86.8	84.6	87.2
Any Fruit[a]	39.4	28.8	68.1	76.0	67.6	71.5
100% Fruit Juice	19.3	15.3	57.8	47.7	64.1	58.9
Fruit Preparation						
Baby Food Fruit	32.6	28.4	42.9[b]	58.1	5.6[c]	6.3
Non-Baby Food Fruit	9.1[c]	1.3[c]	35.8	27.4	64.2	68.0
Canned Fruit	2.3[c]	-	8.8	13.7	12.1[d]	26.2
Fresh Fruit	9.1[b,c]	-	30.0[d]	17.7	59.3	53.1
Vegetables						
Any Vegetable or 100% Vegetable Juice[e]	30.0	27.3	66.2	70.3	76.0	80.5
Type of Preparation						
Baby Food Vegetables	25.7	25.4	34.4[b]	47.6	4.1[c]	4.9
Cooked Vegetables	4.2[c]	2.4[c]	33.2	29.4	71.4	72.9
Raw Vegetables	2.3[c]	-	8.3[c]	2.6	25.0	13.1
Types of Vegetables[e]						
Dark Green Vegetables[f]	-	-	3.3[c]	3.1	11.4[c]	7.5
Deep Yellow Vegetables[g]	21.0	18.2	32.2	25.9	20.0	15.4
Starchy Vegetable:						
White Potatoes	1.4[c]	2.3[c]	20.7	17.4	43.5	39.0
French Fries/Fried Potatoes	-	-	5.7[c]	5.3	23.4	20.3
Baked/Mashed	-	-	14.4[c]	10.7	19.8	17.7
Other Starchy Vegetables[h]	5.0[c]	4.0	6.7[d]	15.1	16.6	22.2
Other Non-Starchy Vegetables[i]	8.1[c]	8.0	28.5	29.0	42.0	43.4

[a] Total includes all baby food and non-baby food fruits and excludes 100% fruit juices and juice drinks.
[b] = Significantly different from non-Hispanic at the $p < 0.05$.
[c] = Statistic is potentially unreliable because of a high coefficient of variation.
[d] = Significantly different from non-Hispanic at the $p < 0.01$.
[e] Total includes commercial baby food, cooked vegetables, raw vegetables, and 100% vegetable juices.
[f] Reported dark green vegetables include broccoli, spinach, romaine lettuce, and other greens such as kale.
[g] Reported yellow vegetables include carrots, pumpkin, sweet potatoes, and winter squash.
[h] Reported starchy vegetables include corn, green peas, immature lima beans, black-eyed peas (not dried), cassava, and rutabaga. Corn is also shown as a subcategory of other starchy vegetables.
[i] Reported non-starchy vegetables include asparagus, cauliflower, cabbage, onions, green beans, mixed vegetables, peppers, and tomatoes.

- = Less than 1% of the group consumed this food on a given day.
N = Sample size.

Source: Mennella et al. (2006).

Table 9-36. Top Five Fruits and Vegetables Consumed by Hispanic and Non-Hispanic Infants and Toddlers per Age Group[a]

Age (month)	*N*	Ethnicity	
		Hispanic	Non-Hispanic
		Top Fruits By Age Group	
4 to 5	84 Hispanic	Bananas (16.3%)	Apples (12.5%)
	538 non-Hispanic	Apples (14.7%)	Bananas (10.0%)
		Peaches (10.9%)	Pears (5.9%)
		Melons (3.5%)	Peaches (5.8%)
		Pears (2.5%)	Prunes (1.6%)
6 to 11	136 Hispanic	Bananas (35.9%)	Apples (32.9%)
	1,228 non-Hispanic	Apples (29.7%)	Bananas (31.5%)
		Pears (15.2%)	Pears (17.5%)
		Peaches (11.7%)	Peaches (13.9%)
		Melons (4.7%)	Apricots (3.7%)
12 to 24	124 Hispanic	Bananas (41.5%)	Bananas (30.9%)
	871 non-Hispanic	Apples (25.7%)	Apples (22.0%)
		Berries (8.5%)	Grapes (12.3%)
		Melons (7.6%)	Peaches (9.6%)
		Pears (7.3%)	Berries (8.7%)
		Top Vegetables By Age Group	
4 to 5	84 Hispanic	Carrots (9.9%)	Sweet Potatoes (7.5%)
	538 non-Hispanic	Sweet Potatoes (6.8%)	Carrots (6.6%)
		Green Beans (5.8%)	Green Beans (5.9%)
		Peas (5.0%)	Squash (5.4%)
		Squash (4.3%)	Peas (3.8%)
6 to 11	136 Hispanic	Potatoes (20.7%)	Carrots (17.5%)
	1,228 non-Hispanic	Carrots (19.0%)	Potatoes (16.4%)
		Mixed Vegetables (11.1%)	Green Beans (15.9%)
		Green Beans (11.0%)	Squash (11.8%)
		Sweet Potatoes (8.7%)	Sweet Potatoes (11.4%)
12 to 24	124 Hispanic	Potatoes (43.5%)	Potatoes (39.0%)
	871 non-Hispanic	Tomatoes (23.1%)	Green Beans (19.6%)
		Carrots (18.6%)	Peas (12.8%)
		Onions (11.8%)	Carrots (12.3%)
		Corn (10.2%)	Tomatoes (11.9%)

[a] Percentage consuming at least one in a day is in parentheses.
N = Sample size.

Source: Mennella et al. (2006).

Table 9-37. Mean Moisture Content of Selected Food Groups Expressed as Percentages of Edible Portions

Food	Moisture Content		Comments
	Raw	Cooked	
Fruits			
Apples—dried	31.76	84.13*	sulfured; * without added sugar
Apples	85.56*	-	*with skin
	86.67**	-	**without skin
Apples—juice	-	87.93	canned or bottled
Applesauce	-	88.35*	*unsweetened
Apricots	86.35	86.62*	*canned juice pack with skin
Apricots—dried	30.09	75.56*	sulfured; *without added sugar
Bananas	74.91	-	
Blackberries	88.15	-	
Blueberries	84.21	86.59*	*frozen unsweetened
Boysenberries	85.90	-	frozen unsweetened
Cantaloupes	90.15	-	
Casabas	91.85	-	
Cherries—sweet	82.25	84.95*	*canned, juice pack
Crabapples	78.94	-	
Cranberries	87.13	-	
Cranberries—juice cocktail	85.00	-	Bottled
Currants (red and white)	83.95	-	
Elderberries	79.80	-	
Grapefruit (pink, red and white)	90.89	-	
Grapefruit—juice	90.00	90.10*	*canned unsweetened
Grapefruit—unspecified	90.89	-	pink, red, white
Grapes—fresh	81.30	-	American type (slip skin)
Grapes—juice	84.12	-	canned or bottled
Grapes—raisins	15.43	-	Seedless
Honeydew melons	89.82	-	
Kiwi fruit	83.07	-	
Kumquats	80.85	-	
Lemons—juice	90.73	92.46*	*canned or bottled
Lemons—peel	81.60	-	
Lemons—pulp	88.98	-	
Limes	88.26	-	
Limes—juice	90.79	92.52*	*canned or bottled
Loganberries	84.61*	-	*frozen
Mulberries	87.68	-	
Nectarines	87.59	-	
Oranges—unspecified	86.75	-	all varieties
Peaches	88.87	87.49*	*canned juice pack
Pears—dried	26.69	64.44*	sulfured; *without added sugar
Pears—fresh	83.71	86.47*	*canned juice pack
Pineapple	86.00	83.51*	*canned juice pack
Pineapple—juice	-	86.37	Canned
Plums—dried (prunes)	30.92	-	
Plums	87.23	84.02*	*canned juice pack
Quinces	83.80	-	
Raspberries	85.75	-	
Strawberries	90.95	89.97*	*frozen unsweetened
Tangerine—juice	88.90	87.00*	*canned sweetened
Tangerines	85.17	89.51*	*canned juice pack
Watermelon	91.45	-	

Table 9-37. Mean Moisture Content of Selected Food Groups Expressed as Percentages of Edible Portions (continued)

Food	Moisture Content		Comments
	Raw	Cooked	
Vegetables			
Alfalfa seeds—sprouted	92.82		
Artichokes—globe and French	84.94	84.08	boiled, drained
Artichokes—Jerusalem	78.01	-	
Asparagus	93.22	92.63	boiled, drained
Bamboo shoots	91.00	95.92	boiled, drained
Beans—dry—blackeyed peas (cowpeas)	77.20	75.48	boiled, drained
Beans—dry—hyacinth (mature seeds)	87.87	86.90	boiled, drained
Beans—dry—navy (mature seeds)	79.15	76.02	boiled, drained
Beans—dry—pinto (mature seeds)	81.30	93.39	boiled, drained
Beans—lima	70.24	67.17	boiled, drained
Beans—snap—green—yellow	90.27	89.22	boiled, drained
Beets	87.58	87.06	boiled, drained
Beets—tops (greens)	91.02	89.13	boiled, drained
Broccoli	90.69	89.25	boiled, drained
Brussel sprouts	86.00	88.90	boiled, drained
Cabbage—Chinese (pak-choi)	95.32	95.55	boiled, drained
Cabbage—red	90.39	90.84	boiled, drained
Cabbage—savoy	91.00	92.00	boiled, drained
Carrots	88.29	90.17	boiled, drained
Cassava (yucca blanca)	59.68	-	
Cauliflower	91.91	93.00	boiled, drained
Celeriac	88.00	92.30	boiled, drained
Celery	95.43	94.11	boiled, drained
Chives	90.65	-	
Cole slaw	81.50	-	
Collards	90.55	91.86	boiled, drained
Corn—sweet	75.96	69.57	boiled, drained
Cress—garden	89.40	92.50	boiled, drained
Cucumbers—peeled	96.73	-	
Dandelion—greens	85.60	89.80	boiled, drained
Eggplant	92.41	89.67	boiled, drained
Endive	93.79	-	
Garlic	58.58	-	
Kale	84.46	91.20	boiled, drained
Kohlrabi	91.00	90.30	boiled, drained
Lambsquarter	84.30	88.90	boiled, drained
Leeks—bulb and lower leaf-portion	83.00	90.80	boiled, drained
Lentils—sprouted	67.34	68.70	stir-fried
Lettuce—iceberg	95.64	-	
Lettuce—cos or romaine	94.61	-	
Mung beans—mature seeds (sprouted)	90.40	93.39	boiled, drained
Mushrooms—unspecified	-	91.08	boiled, drained
Mushrooms—oyster	88.80	-	
Mushrooms—Maitake	90.53	-	
Mushrooms—portabella	91.20	-	
Mustard greens	90.80	94.46	boiled, drained
Okra	90.17	92.57	boiled, drained
Onions	89.11	87.86	boiled, drained
Onions—dehydrated or dried	3.93	-	
Parsley	87.71	-	
Parsnips	79.53	80.24	boiled, drained
Peas—edible-podded	88.89	88.91	boiled, drained
Peppers—sweet—green	93.89	91.87	boiled, drained
Peppers—hot chili-green	87.74	92.50*	*canned solids and liquid

Table 9-37. Mean Moisture Content of Selected Food Groups Expressed as Percentages of Edible Portions (continued)

Food	Moisture Content		Comments
	Raw	Cooked	
Potatoes (white)	81.58	75.43	Baked
Pumpkin	91.60	93.69	boiled, drained
Radishes	95.27	-	
Rutabagas—unspecified	89.66	88.88	boiled, drained
Salsify (vegetable oyster)	77.00	81.00	boiled, drained
Shallots	79.80	-	
Soybeans—mature seeds—sprouted	69.05	79.45	Steamed
Spinach	91.40	91.21	boiled, drained
Squash—summer	94.64	93.70	all varieties; boiled, drained
Squash—winter	89.76	89.02	all varieties; baked
Sweet potatoes	77.28	75.78	baked in skin
Swiss chard	92.66	92.65	boiled, drained
Taro—leaves	85.66	92.15	Steamed
Taro	70.64	63.80	
Tomatoes—juice	-	93.90	Canned
Tomatoes—paste	-	73.50	Canned
Tomatoes—puree	-	87.88	Canned
Tomatoes	93.95	-	
Towel gourd	93.85	84.29	boiled, drained
Turnips	91.87	93.60	boiled, drained
Turnips—greens	89.67	93.20	boiled, drained
Water chestnuts—Chinese	73.46	86.42*	*canned solids and liquids
Yambean—tuber	90.07	90.07	boiled, drained

\- Indicates data are not available for the fruit or vegetable under those conditions.
* Number without added sugar.

Source: USDA (2007).