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*Chapter 9—Intake of Fruits and Vegetables*

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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.

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| Table 9-1. Recommended Values for Intake of Fruits and Vegetables, Edible Portion, Uncooked <sup>a</sup> |                                                                                                                                                                                                                                                                                                                                                      |                             |                |                             |                                                                |          |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------|-----------------------------|----------------------------------------------------------------|----------|
| Age Group<br>(years)                                                                                     | Per Capita                                                                                                                                                                                                                                                                                                                                           |                             | Consumers Only |                             | Multiple<br>Percentiles                                        | Source   |
|                                                                                                          | Mean                                                                                                                                                                                                                                                                                                                                                 | 95 <sup>th</sup> Percentile | Mean           | 95 <sup>th</sup> Percentile |                                                                |          |
|                                                                                                          | g/kg-day                                                                                                                                                                                                                                                                                                                                             | g/kg-day                    | g/kg-day       | g/kg-day                    |                                                                |          |
| Total Fruits                                                                                             |                                                                                                                                                                                                                                                                                                                                                      |                             |                |                             |                                                                |          |
| Birth to 1                                                                                               | 6.2                                                                                                                                                                                                                                                                                                                                                  | 23.0 <sup>b</sup>           | 10.1           | 25.8 <sup>b</sup>           | See Table 9-3 Analysis of<br>and Table 9-4 NHANES<br>2003–2006 | U.S. EPA |
| 1 to <2                                                                                                  | 7.8                                                                                                                                                                                                                                                                                                                                                  | 21.3 <sup>b</sup>           | 8.1            | 21.4 <sup>b</sup>           |                                                                |          |
| 2 to <3                                                                                                  | 7.8                                                                                                                                                                                                                                                                                                                                                  | 21.3 <sup>b</sup>           | 8.1            | 21.4 <sup>b</sup>           |                                                                |          |
| 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 <sup>b</sup>           | 6.8            | 18.1 <sup>b</sup>           | See Table 9-3 Analysis of<br>and Table 9-4 NHANES<br>2003–2006 | U.S. EPA |
| 1 to <2                                                                                                  | 6.7                                                                                                                                                                                                                                                                                                                                                  | 15.6 <sup>b</sup>           | 6.7            | 15.6 <sup>b</sup>           |                                                                |          |
| 2 to <3                                                                                                  | 6.7                                                                                                                                                                                                                                                                                                                                                  | 15.6 <sup>b</sup>           | 6.7            | 15.6 <sup>b</sup>           |                                                                |          |
| 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                                             |                                                                                                                                                                                                                                                                                                                                                      |                             |                |                             |                                                                |          |
| <sup>a</sup>                                                                                             | Analysis was conducted using slightly different childhood age groups than those recommended in <i>Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants</i> ( <a href="#">U.S. EPA, 2005</a> ). Data were placed in the standardized age categories closest to those used in the analysis. |                             |                |                             |                                                                |          |
| <sup>b</sup>                                                                                             | Estimates are less statistically reliable based on guidance published in the <i>Joint Policy on Variance Estimation and Statistical Reporting Standards on NHANES III and CSFII Reports: NHIS/NCHS Analytical Working Group Recommendations</i> ( <a href="#">NCHS, 1993</a> ).                                                                      |                             |                |                             |                                                                |          |

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

| General Assessment Factors             | Rationale                                                                                                                                                                                                                                                                                                                                                                                                   | Rating                                                                                                                                                                                  |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Soundness</b>                       |                                                                                                                                                                                                                                                                                                                                                                                                             | High for total fruits and vegetables, low for some individual fruits and vegetables with small sample size                                                                              |
| <i>Adequacy of Approach</i>            | 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.                                                                                                                                                   |                                                                                                                                                                                         |
| <i>Minimal (or Defined) Bias</i>       | No physical measurements were taken. The method relied on recent recall of fruits and vegetables eaten.                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                         |
| <b>Applicability and Utility</b>       |                                                                                                                                                                                                                                                                                                                                                                                                             | High                                                                                                                                                                                    |
| <i>Exposure Factor of Interest</i>     | The key study was directly relevant to fruit and vegetable intake.                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                         |
| <i>Representativeness</i>              | The data were demographically representative of the U.S. population (based on stratified random sample).                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |
| <i>Currency</i>                        | Data were collected between 2003 and 2006.                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                         |
| <i>Data Collection Period</i>          | Data were collected for two non-consecutive days.                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                         |
| <b>Clarity and Completeness</b>        |                                                                                                                                                                                                                                                                                                                                                                                                             | High                                                                                                                                                                                    |
| <i>Accessibility</i>                   | The NHANES data are publicly available.                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                         |
| <i>Reproducibility</i>                 | The methodology used was clearly described; enough information was included to reproduce the results.                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                         |
| <i>Quality Assurance</i>               | 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.                                                                                                                                                                                                                          |                                                                                                                                                                                         |
| <b>Variability and Uncertainty</b>     |                                                                                                                                                                                                                                                                                                                                                                                                             | Medium to high for averages, low for long-term upper percentiles; low for individual fruits and vegetables                                                                              |
| <i>Variability in Population</i>       | Full distributions were provided for total fruits and total vegetables. Means were provided for individual fruits and vegetables.                                                                                                                                                                                                                                                                           |                                                                                                                                                                                         |
| <i>Uncertainty</i>                     | 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. |                                                                                                                                                                                         |
| <b>Evaluation and Review</b>           |                                                                                                                                                                                                                                                                                                                                                                                                             | Medium                                                                                                                                                                                  |
| <i>Peer Review</i>                     | 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.                                                                                                                                                                            |                                                                                                                                                                                         |
| <i>Number and Agreement of Studies</i> | There was one key study.                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                         |
| <b>Overall Rating</b>                  |                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Medium to High</b> confidence in the averages; <b>Low</b> for some individual fruits and vegetables with small sample size; <b>Low</b> confidence in the long-term upper percentiles |

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**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 America* 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

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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., 1<sup>st</sup>, 5<sup>th</sup>, 10<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup>, 90<sup>th</sup>, 95<sup>th</sup>, 99<sup>th</sup>, 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.

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**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.

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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

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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

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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.

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([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](#)). Mennella 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.

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## 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:

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

where:

$$\begin{aligned} IR_{dw} &= \text{dry-weight intake rate,} \\ IR_{ww} &= \text{wet-weight intake rate, and} \\ W &= \text{percent water content.} \end{aligned}$$

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:

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

where:

$$\begin{aligned} C_{ww} &= \text{wet-weight concentration,} \\ C_{dw} &= \text{dry-weight concentration, and} \\ W &= \text{percent water content.} \end{aligned}$$

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

## 9.5. REFERENCES FOR CHAPTER 9

- [Devaney, B; Kalb, L; Briefel, R; Zavitsky-Novak, T; Clusen, N; Ziegler, P.](#) (2004). Feeding infants and toddlers study: overview of the study design. *J Am Diet Assoc* 104: s8-13. <http://dx.doi.org/10.1016/j.jada.2003.10.023>.
- [Fox, MK; Pac, S; Devaney, B; Jankowski, L.](#) (2004). Feeding infants and toddlers study: What foods are infants and toddlers eating? *J Am Diet Assoc* 104: s22-s30. <http://dx.doi.org/10.1016/j.jada.2003.10.026>.
- [Fox, MK; Reidy, K; Karwe, V; Ziegler, P.](#) (2006). Average portions of foods commonly eaten by infants and toddlers in the United States. *J Am Diet Assoc* 106: S66-S76. <http://dx.doi.org/10.1016/j.jada.2005.09.042>.
- [Mennella, JA; Ziegler, P; Briefel, R; Novak, T.](#) (2006). Feeding Infants and Toddlers Study: the types of foods fed to Hispanic infants and toddlers. *J Am Diet Assoc* 106: S96-106. <http://dx.doi.org/10.1016/j.jada.2005.09.038>.
- [NCHS](#) (National Center for Health Statistics). (1993). Joint policy on variance estimation and statistical reporting standards on NHANES III and CSFII reports: HNIS/NCHS Analytic Working Group recommendations. Riverdale, MD: Human Nutrition Information Service (HNIS)/Analytic Working Group. Agricultural Research Service, Survey Systems/Food Consumption Laboratory.
- [Ponza, M; Devaney, B; Ziegler, P; Reidy, K; Squatrito, C.](#) (2004). Nutrient intakes and food choices of infants and toddlers participating in WIC. *J Am Diet Assoc* 104: s71-s79. <http://dx.doi.org/10.1016/j.jada.2003.10.018>.
- [Smiciklas-Wright, H; Mitchell, DC; Mickle, SJ; Cook, AJ; Goldman, JD.](#) (2002). Foods commonly eaten in the United States: Quantities consumed per eating occasion and in a day, 1994–96 [pre-publication version]. (NFS Report No. 96-5). Beltsville, MD: U.S. Department of Agriculture. <http://www.ars.usda.gov/sp2userfiles/place/12355000/pdf/portion.pdf>.
- [U.S. EPA](#) (U.S. Environmental Protection Agency). (2000). Food commodity intake database [Database].

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- [U.S. EPA](#) (U.S. Environmental Protection Agency). (2005). Guidance on selecting age groups for monitoring and assessing childhood exposures to environmental contaminants (final). (EPA/630/P-03/003F). Washington, DC: U.S. Environmental Protection Agency, Risk Assessment Forum. <http://www.epa.gov/raf/publications/guidance-on-selecting-age-groups.htm>.
- [USDA](#) (U.S. Department of Agriculture). (1980). Food and nutrient intakes of individuals in 1 day in the United States, Spring 1977. Nationwide Food Consumption Survey 1977–78: Preliminary report no. 2. Washington, DC. [http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/7778/nfcs7778\\_prelim\\_2.pdf](http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/7778/nfcs7778_prelim_2.pdf).
- [USDA](#) (U.S. Department of Agriculture). (1993). Food and nutrient intakes by individuals in the United States, 1 day, 1987–88. Nationwide Food Consumption Survey 1987–88: Report no. 87-I-1. (87-I-1). Washington, DC. [http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/8788/nfcs8788\\_rep\\_87-i-1.pdf](http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/8788/nfcs8788_rep_87-i-1.pdf).
- [USDA](#) (U.S. Department of Agriculture). (1996a). Data tables: Results from USDA's 1994 continuing survey of food intakes by individuals and 1994 diet and health knowledge survey. Riverdale, MD.
- [USDA](#) (U.S. Department of Agriculture). (1996b). Data tables: results from USDA's 1995 Continuing survey of food intakes by individuals and 1995 diet and health knowledge survey. Riverdale, MD.
- [USDA](#) (U.S. Department of Agriculture). (1999a). Food and nutrient intakes by children 1994–96, 1998: table set 17. Beltsville, MD. [http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/scs\\_all.pdf](http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/scs_all.pdf).
- [USDA](#) (U.S. Department of Agriculture). (1999b). Food consumption prices and expenditures (1970–1997). Statistical Bulletin, No. 965. Washington, DC: Economic Research Service.
- [USDA](#) (U.S. Department of Agriculture). (2000). 1994–1996, 1998 continuing survey of food intakes by individuals (CSFII). Beltsville, MD: Agricultural Research Service, Beltsville Human Nutrition Research Center.
- [USDA](#) (U.S. Department of Agriculture). (2007). USDA nutrient database for standard reference, release 20. Riverdale, MD. [http://www.ars.usda.gov/main/site\\_main.htm?modecode=12-35-45-00](http://www.ars.usda.gov/main/site_main.htm?modecode=12-35-45-00).
- [Vitolins, MZ; Quandt, SA; Bell, RA; Arcury, TA; Case, LD.](#) (2002). Quality of diets consumed by older rural adults. J Rural Health 18: 49–56.

**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     |                 |                  |                  |                  |                  |                  |                  |                  |       |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------|------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------|
|                               |                                                                                                                                                                                                                                                                                 |                   |      |      | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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*            | 0.0*            | 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 <i>Joint Policy on Variance Estimation and Statistical Reporting Standards on NHANES III and CSFII Reports: NHIS/NCHS Analytical Working Group Recommendations</i> ( <a href="#">NCHS, 1993</a> ). |                   |      |      |                 |                 |                  |                  |                  |                  |                  |                  |                  |       |
| 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   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------|
|                       |                                                                                                                                                                                                                                                                                 |      |      | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> |       |
| 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 <i>Joint Policy on Variance Estimation and Statistical Reporting Standards on NHANES III and CSFII Reports: NHIS/NCHS Analytical Working Group Recommendations</i> ( <a href="#">NCHS, 1993</a> ). |      |      |                 |                 |                  |                  |                  |                  |                  |                  |                  |       |
| 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              | <i>N</i>                                                                                                                                                                                           | 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 |                   |      |    |
| <i>N</i>                      | = 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                                                                                      | <i>N</i>       | Mean | SE   | <i>N</i> | Mean | SE | <i>N</i> | Mean | SE | <i>N</i> | Mean | SE | <i>N</i> | 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 |          |      |    |          |      |    |          |      |    |          |      |    |
| <i>N</i> = Sample size.<br>SE = Standard error.<br>Source: U.S. EPA analysis of the 2003–2006 NHANES. |                |      |      |          |      |    |          |      |    |          |      |    |          |      |    |

## Chapter 9—Intake of Fruits and Vegetables

**Table 9-7. Mean Total Fruit and Total Vegetable Intake (as-consumed) in a Day by Sex and Age (1977–1978)<sup>a</sup>**

| Age<br>(years)                                                                                                                                                                                                                                                              | Per Capita Intake<br>(g/day) | Percent of Population<br>Consuming in a Day | Consumer-Only Intake<br>(g/day) <sup>b</sup> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------------------|----------------------------------------------|
| <b>Fruits</b>                                                                                                                                                                                                                                                               |                              |                                             |                                              |
| 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                                          |
| <b>Vegetables</b>                                                                                                                                                                                                                                                           |                              |                                             |                                              |
| 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                                          |
| <sup>a</sup> Based on USDA Nationwide Food Consumption Survey (1977–1978) data for one day.<br><sup>b</sup> Intake for users only was calculated by dividing the per capita intake rate by the fraction of the population consuming fruit in a day.<br>Source: USDA (1980). |                              |                                             |                                              |

## Chapter 9—Intake of Fruits and Vegetables

| <b>Table 9-8. Mean Total Fruit and Total Vegetable Intake (as-consumed) in a Day by Sex and Age (1987–1988, 1994, and 1995)<sup>a</sup></b>           |                           |      |      |                                          |      |      |                                           |      |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------|------|------------------------------------------|------|------|-------------------------------------------|------|------|
| Age (years)                                                                                                                                           | Per Capita Intake (g/day) |      |      | Percent of Population Consuming in 1 Day |      |      | Consumer-Only Intake (g/day) <sup>b</sup> |      |      |
|                                                                                                                                                       | 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  |
| <sup>a</sup> Based on USDA NFCS (1987–1988) and CSFII (1994 and 1995) data for one day.                                                               |                           |      |      |                                          |      |      |                                           |      |      |
| <sup>b</sup> 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 ( <a href="#">1996a</a> , <a href="#">b</a> ).                                                                                           |                           |      |      |                                          |      |      |                                           |      |      |

**Chapter 9—Intake of Fruits and Vegetables**

| <b>Table 9-9. Per Capita Consumption of Fresh Fruits and Vegetables in 1997<sup>a</sup></b>                                                              |                                             |                        |                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------|---------------------------------------------|
| Fresh Fruits                                                                                                                                             |                                             | Fresh Vegetables       |                                             |
| Food Item                                                                                                                                                | Per Capita Consumption (g/day) <sup>b</sup> | Food Item              | Per Capita Consumption (g/day) <sup>b</sup> |
| 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                                       |                        |                                             |
| <sup>a</sup> Based on retail-weight equivalent. Includes imports; excludes exports and foods grown in home gardens. Data for 1997 were used.             |                                             |                        |                                             |
| <sup>b</sup> 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 ( <a href="#">1999b</a> ).                                                                                                                  |                                             |                        |                                             |

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

| Age Group<br>(years) | Sample Size                                                                                          | White Potatoes |       |       | Dark Green<br>Vegetables | Deep Yellow<br>Vegetables | Tomatoes       | Lettuce, Lettuce-<br>based Salads | Green<br>Beans | Corn, Green<br>Peas, Lima<br>Beans | Other<br>Vegetables |
|----------------------|------------------------------------------------------------------------------------------------------|----------------|-------|-------|--------------------------|---------------------------|----------------|-----------------------------------|----------------|------------------------------------|---------------------|
|                      |                                                                                                      | Total          | Total | Fried |                          |                           |                |                                   |                |                                    |                     |
| Males and Females    |                                                                                                      |                |       |       |                          |                           |                |                                   |                |                                    |                     |
| Under 1              | 1,126                                                                                                | 57             | 9     | 1     | 2                        | 19                        | 1 <sup>b</sup> | 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 <sup>b</sup> | 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                  |
| <sup>a</sup>         | Based on data from 1994–1996, 1998 CSFII.                                                            |                |       |       |                          |                           |                |                                   |                |                                    |                     |
| <sup>b</sup>         | Estimate is not statistically reliable due to small samples size reporting intake.                   |                |       |       |                          |                           |                |                                   |                |                                    |                     |
| <sup>c</sup>         | 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 (%)<sup>a</sup>**

| Age Group<br>(years) | Sample Size                                                                                          | Total | White Potatoes |       | Dark Green<br>Vegetables | Deep Yellow<br>Vegetables | Tomatoes | Lettuce, Lettuce-<br>based Salads | Green<br>Beans | Corn, Green<br>Peas, Lima<br>Beans | Other<br>Vegetables |
|----------------------|------------------------------------------------------------------------------------------------------|-------|----------------|-------|--------------------------|---------------------------|----------|-----------------------------------|----------------|------------------------------------|---------------------|
|                      |                                                                                                      |       | Total          | Fried |                          |                           |          |                                   |                |                                    |                     |
| Males and Females    |                                                                                                      |       |                |       |                          |                           |          |                                   |                |                                    |                     |
| Under 1              | 1,126                                                                                                | 47.2  | 12.3           | 4.3   | 2.3                      | 20.5                      | 1.8      | 0.2 <sup>b</sup>                  | 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                |
| <sup>a</sup>         | Based on data from 1994–1996, 1998 CSFII.                                                            |       |                |       |                          |                           |          |                                   |                |                                    |                     |
| <sup>b</sup>         | 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)<sup>a</sup>**

| Age Group<br>(years) | Sample Size                                                                                          | Total | Citrus Fruits and Juices |        | Dried<br>Fruits  | Other Fruits, Mixtures, and Juices |        |         |                       |                                                |                                     |
|----------------------|------------------------------------------------------------------------------------------------------|-------|--------------------------|--------|------------------|------------------------------------|--------|---------|-----------------------|------------------------------------------------|-------------------------------------|
|                      |                                                                                                      |       | Total                    | Juices |                  | Total                              | Apples | Bananas | Melons and<br>Berries | Other Fruits<br>and Mixtures<br>(mainly fruit) | Non-Citrus<br>Juices and<br>Nectars |
| Males and Females    |                                                                                                      |       |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| Under 1              | 1,126                                                                                                | 131   | 4                        | 4      | – <sup>b,c</sup> | 126                                | 14     | 10      | 1 <sup>b</sup>        | 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     | – <sup>b,c</sup> | 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     | – <sup>b,c</sup> | 133                                | 32     | 11      | 21                    | 20                                             | 50                                  |
| 6 to 11              | 1,031                                                                                                | 183   | 67                       | 60     | – <sup>b,c</sup> | 113                                | 28     | 11      | 16                    | 19                                             | 40                                  |
| 12 to 19             | 737                                                                                                  | 174   | 102                      | 94     | 1 <sup>b</sup>   | 70                                 | 13     | 8       | 11 <sup>b</sup>       | 10                                             | 29                                  |
| Females              |                                                                                                      |       |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 6 to 9               | 704                                                                                                  | 180   | 63                       | 54     | 1 <sup>b</sup>   | 113                                | 23     | 10      | 10                    | 25                                             | 46                                  |
| 6 to 11              | 969                                                                                                  | 169   | 64                       | 54     | – <sup>b,c</sup> | 103                                | 21     | 8       | 8                     | 23                                             | 42                                  |
| 12 to 19             | 732                                                                                                  | 157   | 72                       | 67     | – <sup>b,c</sup> | 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                                  |
| <sup>a</sup>         | Based on data from 1994–1996, 1998 CSFII.                                                            |       |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| <sup>b</sup>         | Estimate is not statistically reliable due to small samples size reporting intake.                   |       |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| <sup>c</sup>         | 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 ( <a href="#">1999a</a> ).                                                                      |       |                          |        |                  |                                    |        |         |                       |                                                |                                     |

**Table 9-13. Percentage of Individuals Consuming, Fruits by Sex and Age, for Children (%)<sup>a</sup>**

| Age Group<br>(years) |       | Sample Size | Citrus Fruits and Juices |        |                  | Other Fruits, Mixtures, and Juices |        |         |                       |                                                |                                     |
|----------------------|-------|-------------|--------------------------|--------|------------------|------------------------------------|--------|---------|-----------------------|------------------------------------------------|-------------------------------------|
|                      |       |             | Total                    | Juices | Dried<br>Fruits  | Total                              | Apples | Bananas | Melons and<br>Berries | Other Fruits<br>and Mixtures<br>(mainly fruit) | Non-Citrus<br>Juices and<br>Nectars |
| Males and Females    |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| Under 1              | 1,126 | 59.7        | 3.6                      | 2.7    | 0.4 <sup>b</sup> | 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                                |
| 3                    | 2,118 | 78.8        | 27.2                     | 21.3   | 5.6              | 68.8                               | 23.7   | 22.6    | 7.7                   | 22.9                                           | 40.0                                |
| 4                    | 1,831 | 74.5        | 27.9                     | 21.4   | 4.1              | 64.2                               | 22.4   | 17.5    | 7.8                   | 20.1                                           | 33.3                                |
| 5                    | 1,859 | 72.6        | 28.0                     | 21.8   | 3.0              | 62.1                               | 23.7   | 15.7    | 7.6                   | 20.0                                           | 30.8                                |
| 6                    | 884   | 67.6        | 26.9                     | 19.5   | 1.3 <sup>b</sup> | 56.9                               | 21.9   | 12.6    | 7.4                   | 19.0                                           | 24.5                                |
| 7                    | 4,574 | 71.6        | 27.6                     | 20.9   | 2.8              | 61.0                               | 22.7   | 15.3    | 7.6                   | 19.7                                           | 29.5                                |
| 8                    | 7,818 | 72.6        | 24.6                     | 18.8   | 3.5              | 63.5                               | 22.2   | 17.6    | 6.9                   | 22.0                                           | 33.5                                |
| 9                    |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 10                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 11                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 12                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 13                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 14                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 15                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 16                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 17                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 18                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 19                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 20                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 21                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 22                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 23                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 24                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 25                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 26                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 27                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 28                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 29                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 30                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 31                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 32                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 33                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 34                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 35                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 36                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 37                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 38                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 39                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 40                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 41                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 42                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 43                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 44                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 45                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 46                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 47                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 48                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 49                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 50                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 51                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 52                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 53                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 54                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 55                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 56                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 57                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 58                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 59                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 60                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 61                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 62                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 63                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 64                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 65                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 66                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 67                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 68                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 69                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 70                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 71                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 72                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 73                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 74                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 75                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 76                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 77                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 78                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 79                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 80                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 81                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 82                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 83                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 84                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 85                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 86                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 87                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 88                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 89                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 90                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 91                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 92                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 93                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 94                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 95                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 96                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 97                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 98                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 99                   |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 100                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 101                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 102                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 103                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 104                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 105                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 106                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 107                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 108                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 109                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 110                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 111                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 112                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 113                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 114                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 115                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 116                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 117                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 118                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 119                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 120                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 121                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 122                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 123                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 124                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 125                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 126                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 127                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 128                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 129                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 130                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 131                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 132                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 133                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 134                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 135                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 136                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 137                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 138                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 139                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 140                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 141                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 142                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 143                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 144                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 145                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 146                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 147                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 148                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 149                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 150                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 151                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 152                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 153                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 154                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 155                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 156                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 157                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 158                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 159                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 160                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 161                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 162                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 163                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 164                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 165                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 166                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 167                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 168                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 169                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 170                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 171                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 172                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 173                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 174                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 175                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 176                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 177                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 178                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 179                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 180                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 181                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 182                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 183                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 184                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 185                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 186                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 187                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 188                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 189                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 190                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 191                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 192                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 193                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 194                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 195                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 196                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 197                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 198                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 199                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 200                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 201                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 202                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 203                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 204                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 205                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 206                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 207                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 208                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 209                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
| 210                  |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |
|                      |       |             |                          |        |                  |                                    |        |         |                       |                                                |                                     |

**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     |                 |                  |                  |                  |                  |                  |                  |                  |      |
|--------------------------|--------|-------------------|------|-----|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
|                          |        |                   |      |     | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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     |                 |                  |                  |                  |                  |                  |                  |                  |      |
|--------------------------|--------|-------------------|------|-----|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
|                          |        |                   |      |     | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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     |                 |                  |                  |                  |                  |                  |                  |                  |      |
|--------------------------|--------|------|-----|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
|                          |        |      |     | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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     |                 |                  |                  |                  |                  |                  |                  |                  |      |
|-----------------------------------------------------|--------|------|-----|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
|                                                     |        |      |     | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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 |  |
| <p>N = Sample size.</p> <p>SE = Standard error.</p> <p>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.</p> <p>Source: U.S. EPA analysis of 1994–1996, 1998 CSFII.</p> |        |                   |      |      |  |

**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 |
| <p>N = Sample size.<br/> SE = Standard error.<br/> 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.</p> <p>Source: U.S. EPA analysis of 1994–1996, 1998 CSFII.</p> |          |      |      |                 |      |      |                |      |      |

**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      |                 |                  |                  |                  |                  |                  |                  |                  |       |
|------------------|-------------------|------|------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------|
|                  |                   |      |      | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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      |                 |                  |                  |                  |                  |                  |                  |                  |       |
|---------------------------------------------------|-------------------|------|------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------|
|                                                   |                   |      |      | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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      |                 |                  |                  |                  |                  |                  |                  |                  |      |
|------------------|-------------------------------------------|------|------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
|                  |                                           |      |      | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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      |                 |                  |                  |                  |                  |                  |                  |                  |      |
|---------------------------------------------------|-------------------|------|------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
|                                                   |                   |      |      | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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      |                 |                  |                  |                  |                  |                  |                  |                  |      |
|---------------------------------------------------|-------------------|------|------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
|                                                   |                   |      |      | 1 <sup>st</sup> | 5 <sup>th</sup> | 10 <sup>th</sup> | 25 <sup>th</sup> | 50 <sup>th</sup> | 75 <sup>th</sup> | 90 <sup>th</sup> | 95 <sup>th</sup> | 99 <sup>th</sup> | 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 <sup>a</sup> | Quantity Consumed per Eating Occasion (gram) |    | Consumer-Only Quantity Consumed per Eating Occasion at Specified Percentiles (gram) <sup>a</sup> |     |     |     |     |     |     |
|                                                                                                                                                              |                                | 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 |
| <sup>a</sup> = 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<br>(N = 2,109)                |      |    | Male and Female<br>(N = 1,432) |                  |                 | Male<br>(N = 696) |                  |                 | Female<br>(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 <sup>a</sup>  | 22 <sup>a</sup> | 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 <sup>a</sup> | 17 <sup>a</sup> | 5.7                 | 109 <sup>a</sup> | 14 <sup>a</sup> |
| Carrots                                | 6.0                                           | 48   | 4  | 3.8                            | 46               | 5               | 2.8               | 81 <sup>a</sup>  | 16 <sup>a</sup> | 2.1                 | 75 <sup>a</sup>  | 17 <sup>a</sup> |
| 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 <sup>a</sup> | 15 <sup>a</sup> | 2.4                 | 93 <sup>a</sup>  | 17 <sup>a</sup> |
| 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 <sup>a</sup> | 17 <sup>a</sup> | 2.0               | 250 <sup>a</sup> | 40 <sup>a</sup> | 3.2                 | 144 <sup>a</sup> | 16 <sup>a</sup> |
| 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 <sup>a</sup> | 19 <sup>a</sup> | 2.6                 | 200 <sup>a</sup> | 47 <sup>a</sup> |
| 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 <sup>a</sup> | 38 <sup>a</sup> | 5.4                 | 109 <sup>a</sup> | 8 <sup>a</sup>  |
| 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<br>(N = 1,543)                           |                  |                 | Female<br>(N = 1,449) |                  |                 | Male<br>(N = 1,663) |      |    | Female<br>(N = 1,694) |      |    | Male<br>(N = 1,545) |      |    | Female<br>(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 <sup>a</sup> | 31 <sup>a</sup> | 2.4                   | 155 <sup>a</sup> | 21 <sup>a</sup> | 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  |
| <sup>a</sup> Indicates a statistic that is potentially unreliable because of a small sample size and a large SE.<br>PC = Percent consuming at least once in two days.<br>SE = Standard error of the mean.<br>N = Sample size. |                                               |                  |                 |                       |                  |                 |                     |      |    |                       |      |    |                     |      |    |                       |      |    |
| Source: Smiciklas-Wright et al. (2002) (based on 1994–1996 CSFII data).                                                                                                                                                       |                                               |                  |                 |                       |                  |                 |                     |      |    |                       |      |    |                     |      |    |                       |      |    |

## Chapter 9—Intake of Fruits and Vegetables

**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<br>(servings per day) |
|---------------------------------------------------------------------------------------------|--------------------------------------------|----|---------------------------------------------|
| Sex                                                                                         |                                            |    |                                             |
|                                                                                             | Female                                     | 80 | 5.7 (1.5–8.1)                               |
|                                                                                             | Male                                       | 50 | 4.5 (0.8–8.8)                               |
| Ethnicity <sup>a</sup>                                                                      |                                            |    |                                             |
|                                                                                             | 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                                                                                   |                                            |    |                                             |
|                                                                                             | 8 <sup>th</sup> grade or less              | 37 | 5.0 (1.5–8.1)                               |
|                                                                                             | 9 <sup>th</sup> to 12 <sup>th</sup> 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 <sup>b</sup>                                                                         |                                            |    |                                             |
|                                                                                             | 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)                               |
| <sup>a</sup> $p < 0.05$ .<br><sup>b</sup> Two missing values.<br>N = Number of individuals. |                                            |    |                                             |
| Source: Vitolins et al. (2002).                                                             |                                            |    |                                             |

*Chapter 9—Intake of Fruits and Vegetables*

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| <b>Table 9-26. Characteristics of the Feeding Infants and Toddlers Study (FITS) Sample Population</b> |             |                      |
|-------------------------------------------------------------------------------------------------------|-------------|----------------------|
|                                                                                                       | 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).                                                                        |             |                      |

## Chapter 9—Intake of Fruits and Vegetables

**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 <sup>a</sup>      |                                                                                                                                |               |                |                 |                 |                 |
| Dark Green Vegetables <sup>b</sup>    | 0.1                                                                                                                            | 2.9           | 4.2            | 5.0             | 10.4            | 7.8             |
| Deep Yellow Vegetables <sup>c</sup>   | 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 <sup>d</sup> | 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            |
| <sup>a</sup>                          | Totals include commercial baby food, cooked vegetables, and raw vegetables.                                                    |               |                |                 |                 |                 |
| <sup>b</sup>                          | Reported dark green vegetables include broccoli, spinach and other greens, and romaine lettuce.                                |               |                |                 |                 |                 |
| <sup>c</sup>                          | Reported deep yellow vegetables include carrots, pumpkin, sweet potatoes, and winter squash.                                   |               |                |                 |                 |                 |
| <sup>d</sup>                          | Reported starchy vegetables include corn, green peas, immature lima beans, black-eyed peas (not dried), cassava, and rutabaga. |               |                |                 |                 |                 |
| Source:                               | Fox et al. (2004).                                                                                                             |               |                |                 |                 |                 |

**Chapter 9—Intake of Fruits and Vegetables**

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

| Top Vegetables by Age Group <sup>a</sup>                                                                                                                                                                                       | 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                                         |
| <sup>a</sup> 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).                                                                                                                                                                                                     |                                             |

## Chapter 9—Intake of Fruits and Vegetables

| <b>Table 9-29. Percentage of Infants and Toddlers Consuming Different Types of Fruits</b> |                                                                     |               |                |                 |                 |                 |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------|----------------|-----------------|-----------------|-----------------|
| 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 <sup>a</sup>                                                               |                                                                     |               |                |                 |                 |                 |
| 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             |
| <sup>a</sup> Totals include all baby food and non-baby food fruits.                       |                                                                     |               |                |                 |                 |                 |
| Source: Fox et al. (2004).                                                                |                                                                     |               |                |                 |                 |                 |

**Chapter 9—Intake of Fruits and Vegetables**

| <b>Table 9-30. Top Five Fruits Consumed by Infants and Toddlers</b>                                                                                                                                                                                                                               |                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Top Fruits by Age Group <sup>a</sup>                                                                                                                                                                                                                                                              | 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                                         |
| <sup>a</sup> 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).                          |

## Chapter 9—Intake of Fruits and Vegetables

**Table 9-31. Characteristics of Women, Infants, and Children (WIC) Participants and Non-Participants<sup>a</sup> (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 <sub>b</sub> | 45                     | 49 <sub>b</sub> | 43                       | 48 <sub>b</sub> |
| Child's Ethnicity               |                       |                 |                        |                 |                          |                 |
| Hispanic or Latino              | 20                    | 11              | 24                     | 8               | 22                       | 10              |
| Non-Hispanic or Latino          | 80                    | 89 <sub>b</sub> | 76                     | 92 <sub>b</sub> | 78                       | 89 <sub>b</sub> |
| Child's Race                    |                       |                 |                        |                 |                          |                 |
| White                           | 63                    | 84              | 63                     | 86              | 67                       | 84              |
| Black                           | 15                    | 4               | 17                     | 5               | 13                       | 5               |
| Other                           | 22                    | 11              | 20                     | 9 <sub>b</sub>  | 20                       | 11 <sub>c</sub> |
| Child In Daycare                |                       |                 |                        |                 |                          |                 |
| Yes                             | 39                    | 38              | 34                     | 46              | 43                       | 53              |
| No                              | 61                    | 62 <sub>b</sub> | 66                     | 54 <sub>b</sub> | 57                       | 47 <sub>b</sub> |
| 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 <sub>b</sub>  | 1                      | 1 <sub>b</sub>  | 0                        | 1 <sub>b</sub>  |
| Mother's Education              |                       |                 |                        |                 |                          |                 |
| 11 <sup>th</sup> 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 <sub>b</sub>  | 2                      | 0 <sub>b</sub>  | 1                        | 2 <sub>b</sub>  |
| Parent's Marital Status         |                       |                 |                        |                 |                          |                 |
| Married                         | 49                    | 93              | 57                     | 93              | 58                       | 88              |
| Not Married                     | 50                    | 7               | 42                     | 7               | 41                       | 11              |
| Missing                         | 1                     | 1               | 1                      | 0 <sub>b</sub>  | 1                        | 1 <sub>c</sub>  |
| Mother or Female Guardian Works |                       |                 |                        |                 |                          |                 |
| Yes                             | 46                    | 51              | 45                     | 60              | 55                       | 61              |
| No                              | 53                    | 48              | 54                     | 40              | 45                       | 38              |
| Missing                         | 1                     | 1 <sub>b</sub>  | 1                      | 0 <sub>b</sub>  | 0                        | 1 <sub>b</sub>  |
| 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             |

<sup>a</sup>  $\chi^2$  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  $\chi^2$  tests are listed next to the variable under the column labeled non-participants for each of the three age groups.

<sup>b</sup>  $p < 0.01$  non-participants significantly different from WIC participants on the variable.

<sup>c</sup>  $p < 0.05$  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).

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| 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 <sup>a</sup>  | 33.8                   | 33.8              | 73.1                     | 72.3              |
| Raw Vegetables                                                                                                                                                                                                                                                           | 1.4                   | 0.1 <sup>b</sup>  | 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 <sup>a</sup>  | 20.7                   | 18.2              | 43.1                     | 38.3              |
| Fruits                                                                                                                                                                                                                                                                   |                       |                   |                        |                   |                          |                   |
| Any Fruit                                                                                                                                                                                                                                                                | 47.8                  | 39.2 <sup>a</sup> | 64.7                   | 81.0 <sup>b</sup> | 58.5                     | 74.6 <sup>b</sup> |
| Baby Food Fruits                                                                                                                                                                                                                                                         | 43.8                  | 36.9              | 48.4                   | 57.4 <sup>a</sup> | 3.8                      | 6.5               |
| Non-Baby Food Fruit                                                                                                                                                                                                                                                      | 8.1                   | 4.0               | 22.9                   | 35.9 <sup>b</sup> | 56.4                     | 70.9 <sup>b</sup> |
| Fresh Fruit                                                                                                                                                                                                                                                              | 5.4                   | 3.8               | 14.3                   | 24.3 <sup>b</sup> | 43.6                     | 57.0 <sup>b</sup> |
| Canned Fruit                                                                                                                                                                                                                                                             | 3.4                   | 0.5 <sup>b</sup>  | 10.3                   | 17.3 <sup>b</sup> | 22.3                     | 25.3              |
| Sample Size (unweighted)                                                                                                                                                                                                                                                 | 265                   | 597               | 351                    | 808               | 205                      | 791               |
| <sup>a</sup> = $p < 0.05$ non-participants significantly different from WIC participants.<br><sup>b</sup> = $p < 0.01$ non-participants significantly different from WIC participants.<br>WIC = Special Supplemental Nutrition Program for Women, Infants, and Children. |                       |                   |                        |                   |                          |                   |
| Source: Ponza et al. (2004).                                                                                                                                                                                                                                             |                       |                   |                        |                   |                          |                   |

## Chapter 9—Intake of Fruits and Vegetables

**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<br>(N = 624) | 6 to 8 months<br>(N = 708) | 9 to 11 months<br>(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).                                   |                |                            |                            |                             |

Chapter 9—Intake of Fruits and Vegetables

| 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 | 15 to 18 months | 19 to 24 months |
|                                                                                                                                                               |                                                    | (N = 371)       | (N = 312)       | (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).                                                                                                                                    |                                                    |                 |                 |                 |

## Chapter 9—Intake of Fruits and Vegetables

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

<sup>a</sup> Total includes all baby food and non-baby food fruits and excludes 100% fruit juices and juice drinks.

<sup>b</sup> = Significantly different from non-Hispanic at the  $p < 0.05$ .

<sup>c</sup> = Statistic is potentially unreliable because of a high coefficient of variation.

<sup>d</sup> = Significantly different from non-Hispanic at the  $p < 0.01$ .

<sup>e</sup> Total includes commercial baby food, cooked vegetables, raw vegetables, and 100% vegetable juices.

<sup>f</sup> Reported dark green vegetables include broccoli, spinach, romaine lettuce, and other greens such as kale.

<sup>g</sup> Reported yellow vegetables include carrots, pumpkin, sweet potatoes, and winter squash.

<sup>h</sup> 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.

<sup>i</sup> 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).

Chapter 9—Intake of Fruits and Vegetables

| Table 9-36. Top Five Fruits and Vegetables Consumed by Hispanic and Non-Hispanic Infants and Toddlers per Age Group <sup>a</sup> |                                                               |                          |                        |  |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------|------------------------|--|
| Age (month)                                                                                                                      | N                                                             | Ethnicity                |                        |  |
|                                                                                                                                  |                                                               | Hispanic                 | Non-Hispanic           |  |
| Top Fruits By Age Group                                                                                                          |                                                               |                          |                        |  |
| 4 to 5                                                                                                                           | 84 Hispanic<br>538 non-Hispanic                               | Bananas (16.3%)          | Apples (12.5%)         |  |
|                                                                                                                                  |                                                               | 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<br>1,228 non-Hispanic                            | Bananas (35.9%)          | Apples (32.9%)         |  |
|                                                                                                                                  |                                                               | 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<br>871 non-Hispanic                              | Bananas (41.5%)          | Bananas (30.9%)        |  |
|                                                                                                                                  |                                                               | 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<br>538 non-Hispanic                               | Carrots (9.9%)           | Sweet Potatoes (7.5%)  |  |
|                                                                                                                                  |                                                               | 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<br>1,228 non-Hispanic                            | Potatoes (20.7%)         | Carrots (17.5%)        |  |
|                                                                                                                                  |                                                               | 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<br>871 non-Hispanic                              | Potatoes (43.5%)         | Potatoes (39.0%)       |  |
|                                                                                                                                  |                                                               | 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%)       |  |
| <sup>a</sup>                                                                                                                     | Percentage consuming at least one in a day is in parentheses. |                          |                        |  |
| N                                                                                                                                | = Sample size.                                                |                          |                        |  |
| Source:                                                                                                                          | Mennella et al. (2006).                                       |                          |                        |  |

## Chapter 9—Intake of Fruits and Vegetables

**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            | -      |                                 |

Chapter 9—Intake of Fruits and Vegetables

| 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 |

## Chapter 9—Intake of Fruits and Vegetables

**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 ( <a href="#">2007</a> ).                                                      |        |                                |