The Data

Information used in calculating food supplies comes from a variety of government and private sources.

Sources

Information on farm production, stocks, and some processed products (including manufactured dairy products) comes from the National Agricultural Statistics Service (NASS), USDA. Data on flour and fats and oils production come from the Current Industrial Reports of the Census Bureau. Census compiles trade information from Customs Service reports. The Agricultural Marketing Service, USDA, reports sugar use. Finally, ERS uses trade association data when they are available and appropriate.

Usefulness

Food disappearance estimates measure supplies moving through trade channels for domestic consumption. They are neither a direct measure of actual consumption nor of the quantity ingested.

Like many time series, the data are useful as indicators of trends over time. In other words, this series indicates whether Americans, on average, are consuming more or less of various foods over time. The disappearance data are used to measure the average level of food consumption in the country, to show year-to-year changes in consumption of major foods, to permit calculation of the approximate nutrient content of the food supply, to establish long-term trends, and to permit statistical analyses of effects of prices and incomes on consumption.

The food supply data series measures utilization of basic commodities without identifying all end-use products, thereby eliminating the problems—commonly associated with food intake survey data—of decomposing compound foods back to commodity ingredients. The series measures food supplies for consumption through all outlets, at home and away from home. It is a long, continuous series, published first in 1941 and extended back to 1909 for most commodities. It is the only data set available for determining long-term trends in supply and consumption by major food groups.

The series covers the spectrum of primary foodstuffs. Hence, it can be used to measure interrelationships between foods and to measure total food supply and apparent use. It is particularly useful for estimating complete demand systems that measure price and income elasticities of demand in a consistent way.

Limitations

The food supply is usually a residual that makes the supply-utilization commodity table balance. The disappearance method of calculation relegates to the food supply all residual uses for which data are not available, such as miscellaneous nonfood uses, stock changes at retail and consumer levels, and sampling and measurement errors in the estimation of other components of the balance sheet. For example, an increasing proportion of the total turkey supply (especially backs, necks, and giblets) goes into pet foods. But since such use has yet to be officially estimated or entered as a nonfood-use component of the supply-utilization balance sheet, it is included in food disappearance. Thus, this report probably overstates turkey consumption. In contrast, the lack of reliable estimates of game fish supplies means that fish consumption is likely understated.

Food disappearance is often used as a proxy to estimate human consumption. Used in this manner, the food supply usually provides an upper bound on the amount of food available for consumption. Food disappearance estimates can overstate actual consumption because they include spoilage and waste accumulated through the marketing system and in the home. (For further discussion of food loss, see "Estimating and Addressing America's Food Losses," *FoodReview* (Linda Scott Kantor et al., ERS, USDA, January-April 1997, pp. 2-12).) In general, food disappearance data serve more appropriately as indicators of trends in consumption over time than as measurements of absolute levels of food eaten. This is the case so long as changes in food production and marketing practices or consumer behavior over time do

not alter the relative disparity between food disappearance and food actually eaten.

The food disappearance series is becoming a less reliable indicator of change over time in ingestion of food fats and oils. While food disappearance reflects trends in fats and oils sold for human food, it probably does not accurately measure food eaten because the waste portion of fats and oils has increased during the past two decades with the growth in away-from-home eating places, especially fast-food places. Foodservice establishments that deep-fry foods can generate significant amounts of waste grease, referred to as "restaurant grease." A 1987 study by SRI, International, indicates that used frying fat disposed of by restaurants and processed by renderers for use in animal feeds, pet foods, and industrial operations and for export amounts to about 6 pounds per capita, or about 9 percent of the 1995 disappearance of added fats and oils. A 1993 study estimated that about 50 percent (or more) of deep-frying fat used in foodservice operations is discarded after use and is not available for consumption. For further details on this study, see "Correction of Dietary Fat Availability Estimates for Wastage of Food Service Deep-Frying Fats," *Journal of Oil Chemists' Society* (J. Edward Hunter and Thomas H. Applewhite, 70:6, June 1993).

Food supply data are aggregates of food obtained from all sources. Retail-weight equivalents measure food availability as if all food were sold through retail foodstores. Much of this food, however, is consumed on farms where produced, or is sold through wholesale channels to restaurants, hotels, other away-from-home eating places, and to schools, camps, hospitals, and other institutions. The food categories tend to be aggregates according to the basic commodity definition—beef, for example. Final product forms and market channel flows are not usually known. Most available data are concentrated near the farm and primary processing levels. There are little or no data available for many further-processed products, such as bread, other bakery products, and soup. In short, relatively good data exist for many of the ingredients, but not for final products. Anyone interested in domestic food intake by individuals should use data from USDA's Continuing Survey of Food Intakes by Individuals (CSFII), conducted by the Agricultural Research Service.

Annual per capita estimates of domestic disappearance inherently represent an aggregation, over time, over consuming units, over geographical space, and over various product forms. In any aggregation process, certain information is, inevitably, lost or rendered irretrievable. Consequently, per capita disappearance may mask the influence on consumption of seasonal variation and socioeconomic and demographic characteristics, such as age, sex, ethnicity, family size, household income, and geographic region. Data from the CSFII and the Consumer Expenditures Survey conducted by the Bureau of Labor Statistics are more useful for measuring the effect of socioeconomic and demographic characteristics on food consumption.

Stocks data are not available for some commodities. Farmer marketings are the only data available for some commodities, and it is assumed that stocks are equal to the proportion of the crop not marketed by the end of the calendar year. For example, the supply-utilization table for dry edible beans uses farmer marketings to estimate stocks. Use of mushrooms for processing is computed without stocks data. The addition of processed mushroom stocks estimates, were they available, probably would have a smoothing effect on food disappearance, making year-to-year changes a little less erratic. In addition, stocks data do not include inventories of wholesalers, retailers, foodservice establishments, and the military because of insufficient data.

The conversion factors used to derive retail weights from primary weights are averages over various varieties and qualities of product and methods of marketing. Though some year-to-year changes have been made in the factors (see "Updated Beef and Pork Conversion Factors"), most conversion factors are constant since 1970 (table 3). As a result, many changes in quality and yield of product and in marketing procedures go undetected in the consumption estimates at retail.

Annual food supply estimates are subject to revision in conforming to data from the census of agriculture

and the census of manufactures, which are available only in years ending with 2 or 7. For example, estimates of per capita supplies of breakfast cereals for 1988-92 have been revised based on data from the 1992 Census of Manufactures. Current estimates use the annual change in grocery store sales volume of breakfast cereals as statistical movers of 1992 census data. Later in 1999, data from the 1997 census will be used to revise the 1993-97 estimates.

Additions and Revisions

The food supply database is continually evolving. Sometimes new information sources permit new series or modification of existing series to better reflect current market conditions. Sometimes traditional data sources are discontinued or substantially changed. ERS has revised USDA's historical food consumption series in recent years to reflect data availability and food distribution as follows.

New and Revised Population Estimates Based on 1990 Census Count

The total population of the United States (including Armed Forces overseas) was estimated to be approximately 270.3 million on July 1, 1998, an increase of 2.4 million or 0.9 percent from the year earlier numbers (table 107).

Table 107 presents estimates for January 1 and July 1, back to 1970, of the (1) total population, including Armed Forces overseas, (2) resident population, and (3) civilian population. The population estimates shown in table 107 for July 1, 1980-July 1, 1998, are based on the April 1, 1990, population, as enumerated in the 1990 census. The revised population estimates based on the 1990 census count run as much as 1.4 million below the previous estimates used. The revised population estimates, especially for the late 1980's and 1990's, slightly raise estimates of U.S. per capita consumption. For a discussion of the estimating procedure used in deriving these estimates, see *Current Population Reports*, Series P-25, No. 1045.

Changes in U.S. Trade Data Reporting

Effective January 1, 1989, the United States joined other countries in adopting a new export and import commodity classification system based on the international Harmonized Commodity Description and Coding System (HS). The HS is intended to serve as a universal product nomenclature superseding the Customs Cooperation and the Brussels Tariff Nomenclatures. Many HS commodities are now reported in more detail than under the old Schedule B system, while others have been combined into broader groups. For example, since the number of trade codes for wheat has increased dramatically with the HS, analysts now have far more detail about the types of wheat and wheat products traded, especially wheat imports. Meanwhile, veal trade is no longer reported separately but is combined with beef trade.

The HS also is used to report shipments from the United States to the territories of Puerto Rico and the Virgin Islands. Shipments data are reported by the U.S. Department of Commerce and, since the adoption of the HS, have become more difficult to obtain on a timely basis. For this reason, ERS has made a change in the supply and utilization tables for red meat, poultry, and eggs that appear in the *Livestock, Dairy, and Poultry Situation and Outlook Report* (LDP) and the *World Agricultural Supply and Demand Estimates* (WASDE). In LDP, shipments to Puerto Rico and the Virgin Islands are included with domestic rather than nondomestic use, which is consistent with internationally reported supply and utilization data used by the Foreign Agricultural Service of USDA, the United Nations, and the Organization for Economic Cooperation and Development. Unlike the LDP and WASDE reports, this bulletin still includes such shipments as a nondomestic use in the estimates for red meat, poultry, and eggs (tables 44-48 and 53-57) in order to make the quantity of food consumed correspond with the number of consumers. Annual per capita food disappearance estimates use U.S. total population, which does not include residents of the U.S. territories. Nor is the production of the U.S. territories included in the estimates of U.S. production. Because shipments to the territories are

excluded from domestic food disappearance, both total and per capita domestic food disappearance estimates in this bulletin may be lower than such estimates in LDP and WASDE.

Format of Meat and Poultry Tables Revised

In the early 1990's, ERS revised the format of the red meat and poultry per capita consumption tables to enhance comparison of red meat and poultry consumption.

Several meat and poultry consumption series are provided in this bulletin. Consumption of beef and other red meats is reported in three forms: carcass weight, retail weight, and boneless, trimmed weight. Consumption of chicken is also reported in three forms: ready-to-cook (RTC) weight, retail weight, and boneless weight. Consumption of turkey is reported in RTC weight and boneless weight. Consumption of fish and shellfish is reported by the National Marine Fisheries Service on an edible-weight, or boneless-weight, basis. All these series have been reported for many decades except the retail series for chicken (new in 1992) and the boneless, trimmed series for red meat and poultry (introduced in 1986 to facilitate comparison of red meat, poultry, and fish).

Red meat production is reported on a carcass-weight basis (tables 44-48), while poultry meat production is reported on an RTC basis (tables 53-56). The carcass-weight consumption series for beef is largely comparable with the RTC-weight series for chicken (table 4). Beef carcass weight is defined as the chilled hanging carcass, which includes the kidney and attached internal fat [kidney, pelvic, and heart fat (KPH)], but not the skin, head, feet, and unattached internal organs. Pork carcass weight is the chilled, hanging carcass, which includes the skin and feet but excludes the kidney and attached internal fat. RTC chicken weight is the entire dressed bird, which includes bones, skin, fat, liver, heart, gizzard, and neck. These consumption series were historically associated with wholesale markets for beef, pork, and chicken.

Historically, RTC weight for poultry also sufficed as an estimate of retail weight, because consumers almost always bought whole dressed birds. However, beginning in the 1980's, processing and marketing developments in the poultry industry caused RTC weight and actual retail weight to diverge significantly. Some poultry parts were available in the 1970's, but in the 1980's poultry processors' marketing strategies shifted dramatically, making more cut-up, further processed, and boneless poultry products available. Because of this changing product mix, more bones and some broiler meat (largely from backs and necks) now go to rendering and pet food manufacturing. Thus, the RTC poultry series no longer accurately reflects what consumers buy at retail.

In 1992, ERS introduced a new retail-weight consumption series for broilers (table 5) that excludes the amount of RTC chicken that is purchased by renderers and pet food manufacturers (see the "New Retail Weight Consumption Series for Broilers Developed" section). This new series was developed to improve the estimates of how much chicken is purchased by U.S. consumers. Data were not available to estimate a retail-weight series for "other chicken"; thus, the broiler conversion factors were used for all chicken. ERS analysts are investigating recent market developments regarding turkeys, which may lead to the development of a new retail consumption series for turkey.

The boneless, trimmed series puts beef, chicken, and fish on a fairly comparable basis (table 6). However, the boneless, trimmed beef series does not include certain internal organs, such as the liver and tongue; the boneless chicken series does include some of the giblets.

The amount of bone-in retail-weight product differs significantly among the meats. Beef at the grocery store currently contains less than 5 percent bone and includes 1/4 inch or less fat around the exterior of retail cuts. On a per capita basis, the difference between retail weight (table 5) and boneless, trimmed weight (table 6) for beef is small: for example, 3.0 pounds per capita in 1997. For pork, the difference in 1997 is only 2.9 pounds. In contrast, on a per

capita basis, the difference between retail weight and boneless weight for chicken is considerable, 21.8 pounds in 1997.

New Retail Weight Consumption Series for Broilers Developed

In 1992, ERS introduced a retail-weight consumption series for broilers to facilitate economic comparisons with retail red meat series (table 5). The new consumption series more accurately reflects the pounds of broiler meat in the domestic market for human consumption. Conversion factors adjust ready-to-cook (RTC) consumption (table 4) to a retail-cut equivalent. The difference between the RTC and retail consumption is the portion of broiler meat that is diverted to pet food and rendering, and the portion of water lost when whole broilers are cut up. During the cooling process, whole birds absorb water equivalent to about 8 or 9 percent of body weight. When whole birds are cut for sale as parts or for further processing, about 35 percent of the water gained during cooling drains out.

The portion of RTC-weight broilers used in pet food production has increased significantly in recent years, whereas very little carcass-weight beef apparently has been so used. As consumer demand for chicken breasts has increased, the less desirable parts, such as necks, backs, and giblets, have become increasingly economical ingredients for pet foods.

Results from the National Broiler Council's biennial processor and distributor surveys provide data on product form and final markets for the products. According to the survey, 87 percent of broilers were sold whole in 1962, but the percentage dropped to only 12.5 percent by 1995. About 11 percent of the RTC poultry weight (inspected by USDA and certified for human consumption) was sold for pet food in 1995.

For more detail about the new methods for changing broiler RTC-weight data to retail-weight, see "Introducing a Broiler Retail Weight Consumption Series," *Livestock and Poultry Situation and Outlook Report* (Agnes Perez, Lawrence Duewer, and Mark Weimar, LPS-53, ERS, USDA, May 1992), and

"Updating Broiler Price and Consumption," *Poultry Outlook* (LDP-P-12, ERS, USDA, Nov. 18, 1996).

Updated Beef and Pork Conversion Factors

Beef production, the basic measurement to estimate beef consumption, is measured at the primary distribution level, or slaughter plant, on a carcass-weight basis. To determine how much of the beef carcass is processed into beef products suitable for sale in grocery stores, in 1962 USDA updated the conversion factor to convert beef carcass-weight data to retail-weight equivalents. Reevaluation of this conversion factor shows that the figure used since 1962 (0.74) was accurate through 1985 (table 3). The figure indicates that after fat, bone, and other trim have been removed from the carcass, 74 percent of the carcass can be sold at retail. A few years ago, USDA developed a new method for evaluating the conversion factor that accounts for different classes of cattle and adjusts for trends in beef merchandising.

Based on this new method, the conversion factor changed for 1986 (to 0.73), for 1987 (to 0.71), for 1988-90 (to 0.705), for 1990-93 (to 0.70), for 1994-95 (to 0.695), and for 1996-98 (to 0.70). The figure should be recalculated each year to account for changes such as leaner cattle, closer trimming of fat, and more removal of bone. ERS bases the changes on data from the National Consumer Retail Beef Study and National Beef Market Basket Survey reports by Texas A&M University, various industry reports and contacts, and retail merchandising practices.

The conversion factor estimates the portion of the beef carcass purchased by consumers. The drop in the conversion factor for 1996 represents 3.9 pounds less beef per capita purchased than if 0.74 were still being used. Of this 3.9 pounds, less exterior fat accounts for 2.4 pounds, less bone for 1.4 pounds, and less fat in hamburger and processed beef for 0.5 pound, while "advanced meat recovery" systems add 0.4 pound. This decline in the estimate of pounds of beef purchased at retail may not mean an equal change in the actual amount ingested because the fat and bone now removed before retail sale may have

been removed before cooking, left in the pan as grease, or left on the plate as table scraps. The conversion factor does indicate that the consumer receives more lean beef per pound of product purchased. For more detail about the new method for changing beef carcass-weight data to retail-weight, see *Reevaluation of the Beef Carcass-to-Retail Weight Conversion Factor* (Kenneth E. Nelson, Lawrence A. Duewer, and Terry L. Crawford, AER-623, ERS, USDA, Oct. 1989) and "Updated Beef Carcass-to-Retail Consumption Factor Increases to 0.7," *Livestock, Dairy and Poultry Situation and Outlook* (LDP-M-51, ERS, USDA, May 19, 1998). The beef carcass factor for converting boneless, trimmed weight has been updated based on revisions in the retail-weight conversion factor (tables 6 and 44).

Conversion factors used to adjust carcass-weight pork consumption (disappearance) to retail and boneless equivalent weights were revised in 1991 to reflect the trends toward leaner hogs, closer trimming of fat, and more removal of bone. An examination of merchandising practices indicated that pork consumption, on a retail-weight basis, has been overstated in recent years and boneless-weight consumption understated. Revisions, reflecting changes in the amounts of fat, bone, and skin sold at retail, were made for 1955 through 1990. The 1989 factors of 0.776 (retail weight) and 0.729 (boneless weight) will be used until the next revision (table 47). For more detail about the new method for changing pork carcass-weight data to retail-weight and boneless-weight, see "Revisions in Conversion Factors for Pork Consumption Series," *Livestock and Poultry Situation and Outlook Report* (Lawrence A. Duewer, Kevin Bost, and Gene Futrell, LPS-45, ERS, USDA, Jan. 1991).

All Dairy Products Consumption Broken Down by Commercial Sales and USDA Donations

In 1993, we added two breakouts under the all-dairy-products category for all years since 1970 (fig. 6, tables 11 and 58). One breakout indicates the supply of dairy products to commercial markets and that produced and consumed on farms, converted to a

milk-equivalent, milkfat basis. The other breakout indicates dairy products supplied to consumers through government commodity donation programs.

Data Revisions, Losses, and Substitutions in Vegetables and Fruits

Data losses since 1981 regarding commercial production of fresh and processed fruits and vegetables have been especially challenging. Points of particular interest include:
- Loss of national production estimates between 1981 and 1992,
- Loss of remaining industry-supplied canned-stock data in the late 1980's,
- The underestimate of U.S. fresh fruit and vegetable exports to Canada during the 1980's, and
- Normal revisions to data series such as U.S. population.

Overcoming data setbacks and expanding the U.S. per capita vegetable use series. During the 1980's and early 1990's, the coverage and scope of the series steadily eroded as basic vegetable data became more scarce. Following the 1981 season, budget cuts forced NASS to stop reporting national production estimates for a number of vegetables, including asparagus (all), cucumbers (all), fresh green beans, artichokes, Brussels sprouts, cabbage (all), eggplant, escarole/endive, garlic, bell peppers, spinach (all), lima beans (all), and beets for processing. National production data were not reinstated for these items until 1992 (with the exception of asparagus and cucumbers for pickles, which were reinstated in 1984).

To monitor as much of the vegetable sector as possible, ERS generated estimates of national production for those commodities dropped from the NASS program in 1982. These estimates were based on data from States that continued to collect production information. In many cases, States that maintained their full vegetable data series in the 1980's accounted for more than half of total national vegetable production estimated in 1981. As a result, the transition back to NASS-supplied, U.S.-production estimates in 1992 did not necessitate any statistical adjustments in

1982-91 ERS estimates, as the 1991 ERS estimates and the 1992 NASS estimates were similar.

In the mid-1980's, the vegetable series contained only 25 commodity categories, compared with 63 in 1965. Recent efforts have expanded coverage to 53 commodity categories. Per capita use figures now cover 416 pounds of vegetables (farm-weight equivalent), compared with 315 pounds in 1990 and as few as 220 pounds in the mid-1980's. Key to this most recent change was USDA's expansion of basic commodity production data in 1992.

The second challenge to the per capita vegetable estimates program occurred when the National Food Processors Association discontinued reporting of canned stocks for all canning vegetables in the late 1980's. Inventory movements provide year-to-year stability to per capita estimates. If stocks data are dropped out of the estimate, substantial year-to-year variation in the per capita series results.

With this in mind, ERS has been estimating stocks ending on December 31 for canning vegetables based largely on historical relationships between stocks and production. However, the risk of estimation error grows the further out-of-sample the forecast gets. In the interest of accuracy, ERS will soon be forced to discontinue this procedure, and accordingly, drop beginning and ending stocks from per capita estimates of canning vegetables.

Fortunately, the California League of Food Processors, in cooperation with tomato processors, now reports quarterly stocks of processing tomatoes held in California warehouses. These data are useful in determining national supply and use of processing tomatoes, which account for about 70 percent of all vegetables for canning.

A third challenge to per capita vegetable estimates involved U.S. export statistics. From the late 1970's through 1989, U.S. exports of vegetables (particularly fresh vegetables) to Canada were severely understated. The problem became acute by the mid-1980's, with reported U.S. exports of fresh vegetables (such as broccoli) less than half of Canada's estimates.

In January 1990, the Bureau of the Census began replacing U.S. data on exports to Canada with Canadian data on imports from the United States (collected by Statistics Canada). Because Canada is more thorough in collecting import data than the United States is in monitoring exports, U.S. vegetable exports jumped substantially in 1990, especially for fresh vegetables.

Pre-1990 exports required adjustments to reflect the data on actual U.S. exports and per capita use. To modify the per capita series for 1978 to 1989, ERS adjusted the export data for all major fresh vegetables by replacing U.S.-reported exports to Canada with data from Statistics Canada. With higher export figures, the net result was to reduce the estimate of domestic use for most fresh vegetables.

The per capita use series undergoes normal revision to the basic data underlying the series. For example, U.S. population estimates were recently revised back to 1980, which marginally changed per capita use estimates for some items. Some of the most important revisions occur every 5 years when NASS revises U.S. production estimates based on benchmarks from the most recent census of agriculture. Other modifications to data series can occur with changes in methodology or in the event of errors.

New per capita consumption estimates for canned fruits. Beginning in 1990, pack and stock data for a variety of canned fruits were no longer available from several key industry participants and, therefore, the per capita consumption figures for canned fruits were not updated for 1989. In 1992, ERS developed an alternative procedure for estimating canned fruit consumption using data on utilization for canning as reported by NASS (table 19).

Domestic consumption of a commodity, for the designated time period (calendar or crop year), is typically estimated by taking domestic production, adding beginning stocks and imports, and then subtracting ending stocks and exports. Until discontinued in 1990, industry pack and stock data for canned fruit (apples, apricots, sweet and tart cherries, fruit cocktail, peaches, plums and prunes, and olives) were

used as the measures of domestic canned production and stocks.

The NASS estimates are now used as the measure of canned fruit production or pack. The fresh weight of fruits used for canning is converted into its product-weight equivalent using standard conversions. There still are no measures of canned fruit stocks. Therefore, stock adjustments are excluded from the per capita calculations. Imports and exports, as in the past, are obtained from U.S. Department of Commerce trade data (in 1992, ERS replaced U.S.-reported exports to Canada for 1978-89 with data from Statistics Canada on Canadian imports from the United States). This same estimating procedure has been used to reestablish per capita consumption measures for apple products (table 23), for grape products (table 24), and for fresh and processed pineapple (table 25).

The transfer from industry to NASS utilization data changed the mix of canned fruit products for which per capita consumption is calculated, reflecting the availability of data. Canned utilization data are esti-mated by NASS for apples, apricots, cherries, peach-es, plums and prunes, and olives. For pears and pineapples, only total processed utilization is report-ed by NASS and canned pears and canned pineapples are not broken out as separate processed items. In this bulletin, the amount of pears utilized for drying is subtracted from total processed utilization and the remainder is assumed to be canned. Last year, con-sumption of canned pineapple and pineapple juice was also estimated. Fruit cocktail had previously been estimated as a separate canned fruit item. However, under the new procedure, all fruits used in canned fruit cocktail are included with the processed utilization for each canned fruit. The old and new procedures provide similar estimates of per capita consumption for apricots, peaches, and prunes and plums. For cherries and pears, the new estimates are more than double the old estimates. The discrepan-cies could be due to a number of factors, including previous underreporting of the pack by the industry. Also, the NASS processed-pear utilization data include pears canned in fruit cocktail. For canned apples and olives, the new estimates are identical to

the old as NASS utilization estimates were used under both the old and new procedures.

Consumption of processed fruit estimated on a farm-weight basis. In the 1993 bulletin, total per capita consumption estimates were derived for processed citrus and five processed noncitrus fruits (apples, pineapples, grapes, peaches, and pears). In the 1994 bulletin, strawberries were included. In the 1999 bulletin, apricots, blackberries, blueberries, boysenberries, dates, figs, loganberries, olives, plums, prunes, and raspberries have been added. For each fruit, the portion of U.S. production that was utilized for processing was adjusted for imports and exports of processed products on a farm-weight basis. The conversion to farm-weight basis allows the summation of all fruit consumed in various forms (for example, juice, canned sections, and fresh) (tables 15 and 16).

Processed products were converted to their equiva-lent farm weight, which approximates the quantity of whole fruit used to make the product. For example, per capita consumption of orange juice, expressed in single-strength gallons (table 22), was converted to pounds of whole oranges used to produce that amount of juice. Imports and exports of fruit juices and prepared or preserved fruits were converted to farm-weight equivalents, based on U.S. product-yield conversion factors.

Per capita consumption estimates are not actual measures of the amount of fruit consumed in a given year. However, estimates do indicate overall con-sumption levels, long-term trends, and changes in consumption patterns. For all fresh fruits and most fruit products, consistent stock data are not available. Without accounting for beginning and ending inven-tories, it is assumed that fruit is utilized for domestic consumption or export in the year it was produced or imported. Annual consumption estimates are likely to be more variable in the absence of stock data.

Combined fruit and vegetable per capita use. ERS receives many requests for combined vegetable and fruit per capita use. This has been a problem because of differences in estimation and reporting procedures for fruits and vegetables. For example, some com-

modity supply and use data (such as citrus) must be estimated on a crop-year rather than a calendar-year basis. However, combined fruit and vegetable per capita use is helpful in describing simple trends. In 1994, ERS introduced a combined series estimated on a farm-weight basis (table 15).

Food Consumption Data Revised to Include U.S. Military Use

In 1989, for the first time, per capita consumption of all farm foods except fluid milk and cream were reported on a U.S.-total-population (including Armed Forces overseas) basis. Earlier estimates had reported animal product consumption on a civilian-population basis. Fluid milk and cream estimates use the U.S. resident population. This bulletin no longer adjusts for military consumption in the supply and utilization balance sheets since data on military food use do not reflect all military food purchases or consumption. The data include purchases by the Defense Department's central purchasing office for troop feeding, but exclude local purchases for troop feeding and purchases through commissaries, clubs, exchanges, and civilian distribution channels for personal or household use. The incompleteness of the data tended to distort both military and civilian per capita consumption estimates. For most years, changing the statistical series to represent the total population results in very small changes in per capita consumption. The main exception is the war years of the 1940's, frequently deleted from studies of consumption because of abnormalities created by the war.

Mandated Table on Import Share of Food Disappearance for Selected Foods

Table 93 shows the import share of the food supply for 129 commodities for selected years. Publication of this information is mandated by the Omnibus Trade and Competitiveness Act of 1988. The act directs the Secretary of Agriculture to compile and report statistics on the total value and quantity of imported raw and processed agricultural products. In addition, statistics on the total quantity of production and consumption of domestically produced raw and processed agricultural products are required.

Statistics on the value and quantity of agricultural imports are published bimonthly in *Foreign Agricultural Trade of the United States* (USDA, ERS), while statistics on domestic production and consumption are published annually in *Food Consumption, Prices, and Expenditures* (USDA, ERS). The mandated table, which reports the percentage of consumption accounted for by imports, is published each year in these two publications. Adding the table to these publications facilitates the comparison of the quantity and value of imports with domestic production and consumption.

The import share of domestic food disappearance varies greatly among commodities. Less than 1 percent of eggs, fresh cranberries, and head lettuce is imported, but imports make up more than 99 percent of the U.S. domestic food supplies of coffee, tea, cocoa, and tropical oils (palm, palm kernel, and coconut). Import shares are calculated from commodity supply and utilization balance sheets. Import share is the quantity imported divided by the quantity available for domestic food consumption.