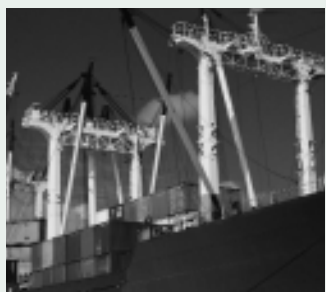


# AGRICULTURAL OUTLOOK



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**Cover photo:** Texas celery harvest. A. Duda & Sons, Inc.

## Celery . . . Rice Outlook . . . India's Trade Policy . . . Genetic Resources . . . Tariff-Rate Quotas

### Tariff-Rate Quotas—A Status Report

*When the next round* of World Trade Organization agricultural trade negotiations gets under way in earnest next year in Geneva, tariff-rate quotas (TRQ's) are likely to emerge among items to be negotiated. A TRQ is a two-tiered tariff allowing a limited volume—the "quota"—to be imported at a lower rate, with imports above the quota subject to the higher tariff. Over 1,300 TRQ's are applied to agricultural products, and many limit trade on key or politically sensitive commodities.

Two issues to be resolved are TRQ liberalization and administration. Liberalization concerns changing the tariff and quota levels of existing TRQ's. Questions about liberalization are likely to revolve around whether minimum-access levels (within quota) should be expanded and whether and how to reduce tariffs. TRQ administration relates to how an importing country allocates the right to import at the in-quota tariff rate. For example, should quotas be allocated based on past market share or potential share?

### India Relaxes Restraints on Agricultural Imports

*India is slowly opening its doors* to the world market. Since 1997, the world's second-most populous country has been removing many licensing and quota restrictions on agricultural and other imports—restrictions that had virtually banned private importing and kept the level of agricultural imports at a miniscule fraction of the domestic market. On the minus side, India has put in place several new high tariffs that will blunt some of the trade potential and leave immediate prospects for agricultural imports somewhat uncertain. Nevertheless, as its government liberalizes trade policies, India emerges as a potentially large market for agricultural and consumer products. With incomes rising, and given the government's general support for globalizing the country's economy, India should be a growing market over the long run.



### Stalking Celery

*Celery has nutritional properties* and versatility that have made it a relatively steady item in the grocery cart. U.S. consumers used 1.8 billion pounds of celery in 1999, continuing a steady, flat trend in per capita celery use over the past four decades—about 7 pounds per year on average. The U.S. celery industry is relatively small, with 378 farms reporting celery production in 1997. California, Florida, Michigan, and Texas account for most of the nation's celery crop, which averaged \$236 million annually during 1997-99. In the 1990's, exports accounted for an average 12 percent per year of celery supplies. Canada, China/Hong Kong, and Taiwan were the largest markets, purchasing 70, 15, and 7 percent of U.S. fresh-celery exports.

### U.S. Rice Prices Low Despite Smaller Supplies

*U.S. rice prices* were the lowest in nearly 7 years at the start of the August-July 2000/01 market year, despite a projected dip in supplies from last season. Although prices have risen slightly since July, the 2000/01 U.S. season-average farm price is projected at \$5.75 to \$6.25 per hundred-weight (cwt), the lowest since 1992/93. The main factor preventing U.S. prices from rising is the extremely low level of prices on the international market—largely the result of an abundance of exportable supplies worldwide and bumper crops in most major importing countries.

### Agricultural Genetic Resources for Future Crops

*Agricultural genetic resources* are living matter used by plant breeders to develop or enhance desirable traits in crops, such as high yields, resistance to disease, drought tolerance, and heightened nutritional value. Genetic improvements from plant breeding account for half the crop yield increases over the past six decades. But continuing evolution of diseases and other pests presents a threat that can quickly undo the gains. Breeders need continually to incorporate diverse germplasm, drawing on wild and adapted sources, to find specific traits, including resistance to diseases.

Gene banks hold more than 6 million unique samples of crop varieties at sites around the world. In the U.S., most agricultural genetic resources are preserved by removing genetic material from its natural environment for long-term conservation. Given the limited incentives for private firms to hold sufficient levels of all types of germplasm, a strong set of publicly held genetic resources is a major asset in meeting society's goals.

## Briefs

**Livestock, Dairy, & Poultry****Growth in Broiler Production Likely to Slow in 2001**

After relatively strong production increases in most of the 1990's, the U.S. broiler industry is attempting to slow its rate of expansion. U.S. broiler production over the first 8 months of 2000 totaled 20.5 billion pounds, only 3 percent higher than the previous year. Total production in 2000 is projected to increase 3 percent over 1999, and production growth should remain slow in 2001 as rising export demand levels out. The outlook for broiler parts prices hinges on whether production increases do in fact remain moderate.

Behind the slowdown are depressed prices for most broiler parts, prompted by the steep decline in exports to Russia after devaluation of the ruble in August 1998. During the first half of 1998, exports accounted for 19 percent of total U.S. production, with Russia the largest market. Until the ruble devaluation, broiler exports had proceeded at a record pace and prices of most parts had been fairly strong. After devaluation, exports fell dramatically, and prices for most parts declined.

Leg quarters are the largest component of Russian imports. In the U.S. Northeast, prices for leg quarters reached a 1998 peak in August, at almost 36 cents a pound. By December, the drop in exports to Russia sent these prices plunging to 18 cents, a 50-percent decline. Prices for other broiler parts followed a similar pattern. Prices for thighs fell about one-third between those months.

Before the drop in the Russian market, processors had been increasing flocks in anticipation of growing domestic demand and higher exports. These efforts boosted production 6.7 percent in 1999. This increase in production, coupled with only a 4-percent increase in exports, depressed prices for both light and dark meat products throughout 1999. Also, most of the export growth was due to a jump of almost 25 percent in shipments to China, whose imports impact prices less than those of Russia (see below).

In 2000, the export picture became one of the bright spots for the broiler industry, with shipments forecast to increase 7 percent. After several years of slow or little growth due to economic upheavals in a number of importing countries, most major broiler markets have boosted imports considerably. (The major U.S. markets are Russia, Mexico, and China/Hong Kong, which together accounted for 65 percent of U.S. broiler exports in the first half of the year.) Between the beginning of August and the end of September, prices of most broiler parts increased substantially. For example, prices for leg quarters rose approximately 7 cents a pound to 28 cents as sales to Russia increased.

Export demand has increased because the economies of Russia and Mexico have both gained from rising world oil prices. Broiler shipments to Russia have also benefited from recent changes in import tariffs. Tariff rates on all poultry products have been equalized, with broiler tariffs dropping slightly and tariff rates for turkey and other poultry products rising. During the first half of 2000, total shipments to Russia totaled 1.016 billion pounds, a 49-percent increase over 1999. (This figure includes broiler exports going through Latvia and Estonia, almost all of which eventually end up in Russia.)

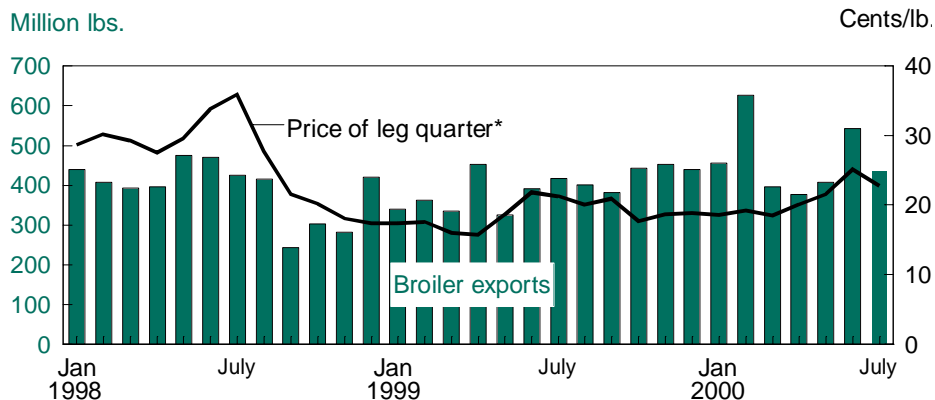
Although efforts are underway to rebuild the Russian poultry sector, domestic production is still below earlier levels, and demand for U.S. products is strong.

Broiler shipments to Mexico have grown steadily since recovering from the 1996 downturn resulting from devaluation of the peso. By 1999, exports had risen to just under 300 million pounds, making Mexico the third-largest U.S. market. This year, the Mexican economy is benefiting not only from higher oil prices but also from an apparently smooth transition of power following July elections that will bring an unprecedented change in political leadership. These conditions have led to a 20-percent increase in broiler exports to Mexico over the first 7 months of 2000. Exports are expected to remain strong for the remainder of 2000 and into 2001.

The Chinese market also has continued to expand over the last several years. Shipments to China/Hong Kong totaled 1.383 billion pounds in 1999, an increase of 26 percent from the previous year.

During the first 7 months of 2000, shipments totaled 929 million pounds, an increase of 16 percent. The rate of exports to China/Hong Kong is expected to slow in the remainder of 2000, but China/Hong Kong is expected to remain a strong growth market into next year.

While growth in exports to the China/Hong Kong market has benefited the U.S. broiler industry, the trend has not strengthened prices as dramatically as it

**U.S. Broiler Prices Take Upward Turn in 2000 as Exports Rise**

\*Average monthly wholesale prices, U.S. Northeast.  
Economic Research Service, USDA

would in other markets. The reason lies in the composition of products shipped to China/Hong Kong. In 1999, 23 percent of all broiler products exported there (322 million pounds) consisted of chicken feet. Without this market, almost all of these parts would go to renderers for eventual use in pet foods. These exports represent a definite gain to broiler processors, but their absence from the domestic market

does not affect prices for broiler parts traditionally consumed in the U.S.

With strong exports to the three largest markets and a number of smaller markets, including Korea and Singapore, U.S. broiler exports surged to over 3 billion pounds in the first 7 months of 2000, up over 20 percent from the previous year. While the pace of export growth is expected to slow during the rest of 2000,

the year's total should reach a record 5.2 billion pounds.

Slower overall growth is expected in 2001 as shipments level out. Larger shipments to Russia are likely, but declining shipments through Latvia and Estonia will probably offset most of the increase. **AO**

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## Specialty Crops

### 2000/01 U.S. Apple Crop to Rise, Prices Likely to Fall

U.S. apple orchards will grow more apples this year, and consumers across the country will likely eat more apples and pay slightly less for them. According to USDA forecasts, U.S. apple production is 10.7 billion pounds in 2000, up 1 percent from 1999 although 8 percent below 1998's record. Most western states will produce more apples than last year, and the increase should outweigh declines anticipated in central and eastern states. While the larger crop should cause fresh apple prices to drop in 2000/01, they probably will not fall far, because of reduced competition from a smaller pear crop this autumn.

An ample apple supply, combined with slightly lower prices, should increase consumption of U.S. apples—particularly fresh apples—both at home and abroad in 2000/01. U.S. per capita consumption of fresh apples will be up about 1 percent from the 18.8 pounds consumers averaged last year.

Weather conditions lie behind much of this year's anticipated difference in apple production between the west and the east. Given the west's favorable weather, USDA expects apple growers in every western state but California to produce a considerably larger crop than last year's—up 14 percent, to 7.0 billion pounds for the region. Washington, where apples are the state fruit, grows more than half the country's crop—the state is the largest supplier to both U.S. and export markets. This year's Washington apples should be

of excellent quality and size, and output should measure 5.7 billion pounds, 14 percent higher than 1999's. (California's bearing acreage has declined the last two years, and some apple-growing areas were affected by erratic weather this year.)

In the east and central states, freeze damage, poor pollination conditions, hail, and fire blight problems hurt the crop in most apple-growing regions. Production is expected to fall in several major producing states: Michigan (down 26 percent), New York (19 percent), Pennsylvania (5 percent), Virginia (6 percent), and West Virginia (38 percent).

The larger crop in Washington alone can be expected to lower the price of fresh apples this year—in July through September 2000, U.S. growers received an average 19.7 cents per pound, compared with 20.2 cents during the same period in 1999. In addition, the state's crop is reported to be maturing 5 days earlier than normal, and stocks from 1999 appear large. Depending on how quickly the industry moves these 1999-crop apples out of cold storage, the early-maturing crop in Washington could lower fresh apple prices further.

Another result of higher production is that the U.S. will probably import fewer and export more fresh apples this season, the reverse of the 1999/2000 season when U.S. production dipped. Imports from August 1999 through July of this year were up 10 percent over the previous

year's, to 377.5 million pounds. Shipments increased from Canada and New Zealand but declined from Chile as poor spring weather reduced the crop there. These three countries supplied 92 percent of U.S. fresh apple imports.

U.S. fresh apple exports should receive an extra boost from the combination of Washington's good-quality crop and USDA's Market Access Program, which provides funds to promote apple exports. Partly because of lower U.S. production, exports in 1999/2000 decreased 21 percent from a year earlier, to 1.2 billion pounds, slipping in all major markets except Mexico and Indonesia, with Mexico surpassing Taiwan as the top destination for U.S. fresh apples.

Japan, although still a minor market, imported 46 percent more U.S. apples in 1999/2000 than the previous year. The increase is partly because the Japanese market for the first time admitted U.S. Fuji apples, having previously limited its U.S. imports to Red Delicious and Golden Delicious varieties.

In the processed-apple market in 2000, growers can expect higher prices as a result of reduced supplies from the central and eastern U.S., whose output is geared mostly to this market. Also likely to push prices up is the expected drop in concentrated apple juice imports from China, which in recent years has flooded the U.S. market. Imports of concentrated apple juice from China currently face a 52-percent anti-dumping duty levied because the concentrate was being sold in the U.S. market at unfairly low prices. **AO**

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## Commodity Spotlight



Economic Research Service, USDA

### Stalking Celery

American poet Ogden Nash composed a short ode to celery that sums up two of its key characteristics:

*Celery, raw  
Develops the jaw,  
But celery, stewed,  
Is more quietly chewed.*

The distinctive crunch of a fresh rib of celery is a hallmark of this vegetable, widely considered a salad item. But it can also be transformed into a subtle but flavorful ingredient in a variety of dishes from chow meins to stews and gumbos.

Although not a major plate vegetable, celery has nutritional properties and versatility that have made it a relatively steady item in the grocery cart. Two medium-sized celery ribs have just 20 calories yet provide 15 percent of the RDA for vitamin C and 8 percent of the recommended dietary fiber. The popularity of salads and salad bars and the introduction of prepackaged fresh-cut products over the past decade may have helped to raise the profile of celery among consumers.

#### ***U.S. Production Heads West***

Although European settlers brought celery to America in the 1600's, the U.S. commercial celery industry did not take hold until the latter 1800's, when Dutch farmers in Michigan began marketing the crop. The industry spread south to Florida and then west to California, where it is concentrated today.

The U.S. celery industry is relatively small, with 378 farms reporting celery production in the 1997 Census of Agriculture—unchanged since 1987 but one-third less than in 1978. California, Florida, Michigan, and Texas account for most of the nation's celery crop, which had an average annual farm value of \$236 million during 1997-99.

In California, the number of farms reporting celery acreage (175 in 1997) rose over the past decade, while the numbers declined in most other states. California now accounts for about 86 percent of national celery production (ERS estimate)—up from 75 percent in 1990 and 64 percent in 1980. Celery contributed \$218 million to California's farm cash receipts during 1997-99—ninth among all vegetable crops in the state.

California produces celery year-round, with output concentrated in the central and south coastal valleys, where the climate is mild. The counties of Ventura (43 percent of state production), Monterey (34 percent), and Santa Barbara (13 percent) account for most of the state's celery output. Although the bulk of California's celery enters the fresh market (including fresh-cut products such as celery sticks), frozen and dehydrated celery items are also sold.

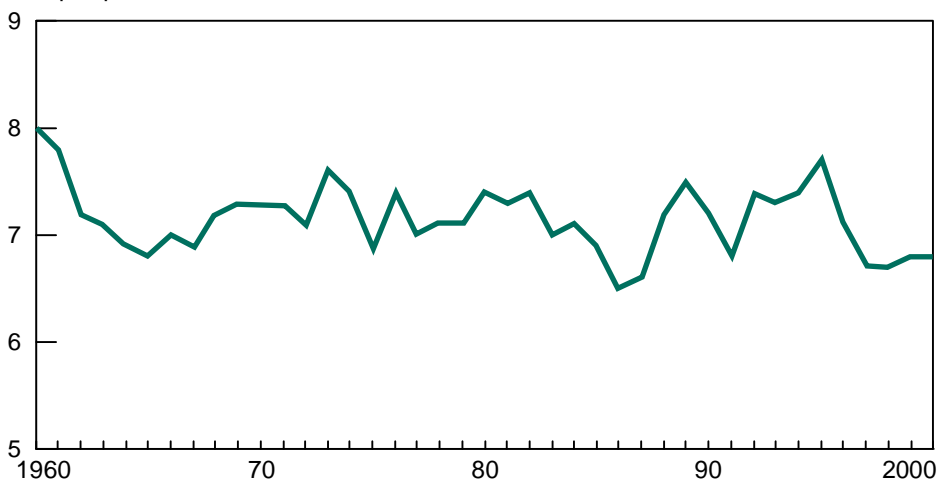
The celery industry in Florida has been in decline over the past 20 years as competitive pressures and weather setbacks forced out a number of growers. According to the 1997 Census of Agriculture, Florida harvested 4,115 acres in 1997—half the area of 1992 and one-third the celery acreage recorded in the 1978 Census. This reduction in Florida and larger supplies from California led the Florida industry in 1998 to discontinue its marketing order for Florida celery, which, among other things, authorized mandatory inspection, grade, size, pack, and container and flow-to-market regulations. Despite the trend, Florida remains the second-leading producer of celery in the nation, with an estimated 8 percent of the country's output. Florida's season runs January through April, and the state's crop is grown largely in the Everglades area of Palm Beach County.

Michigan is the third-ranking producer of celery in the U.S., harvesting an average 2,133 acres during 1997-99. Although the number of Michigan celery growers has declined by half since 1982, the longrun trend (1950-99) in harvested acreage has been flat. According to information from Michigan State University, about 75 percent of the state's celery crop is packed for the fresh market, 60 percent of that as standard-sized celery packs and 15 percent as celery hearts. The other 25 percent of Michigan's celery goes into products such as soup, juice, and frozen foods. Although acreage is spread among several counties, the leaders are Ottawa (17 percent), Allegan (15 percent), and Muskegon (13 percent); 60 percent of the acreage is in the southwestern part of the state. Michigan ships celery July through October.

## Commodity Spotlight

## Per Capita Celery Use Has Hovered Around 7 Pounds

Lbs. per person



2000 forecast.

Economic Research Service, USDA

Like Florida, Texas celery acreage has trended down over the past decade. During the 1990's, California shippers had an advantage over Texas and Florida growers because of lesser freeze risks and because transportation costs were low. Celery acreage is now one-third the level of the late 1980's with just 600 acres remaining. The majority is located in the fertile Rio Grande Valley with most shipments January through March.

### U.S. Since 1970's A Net Exporter

The U.S. was historically and continues to be a net exporter of celery. In 1999, exports of fresh-market celery totaled \$43 million, while imports were valued at \$9 million. During the 1990's, an average 12 percent of celery supplies was exported annually—a steady upward trend from 11 percent during the 1980's and 8 percent during the 1970's. In 1999, Canada, China/Hong Kong, and Taiwan were the largest importers of U.S. celery, accounting for 70, 15, and 7 percent of fresh-celery exports. The U.S. is the leading foreign supplier of celery to these countries and ships celery to them year-round, with some seasonal variation in volume.

Steady, ample supplies from a relatively efficient domestic industry keep prices

low and limit opportunities for imports of fresh celery. Despite this, U.S. import volumes have been trending upward since the late 1980's. In the 1990's, fresh imports accounted for 3 percent of celery consumption, up from 1 percent in the 1980's; fresh-celery imports doubled between 1989 and 1999. Ninety percent of the fresh celery imported by the U.S. comes from Mexico, most entering the

country during the winter months. The U.S. also spends \$2 to \$3 million annually to import dried celery stalks, with the bulk coming from Chile and China.

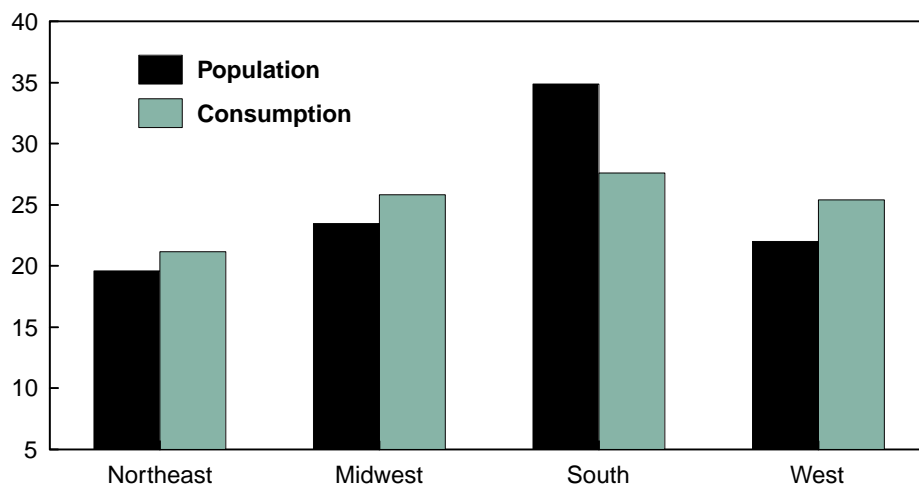
### Domestic Demand Constant

U.S. consumers used 1.8 billion pounds of celery in 1999. Although consumption fell during the last half of the 1990's, average per capita use of celery has remained relatively flat over the past four decades. Despite the recent drop, celery use averaged 7.1 pounds per person during the 1990's—the same amount recorded in the 1980's and just below the 7.2-pound average calculated for both the 1960's and 1970's. Looking further back, per capita use peaked at 9.1 pounds in 1946 before dropping to 7.9 pounds the following year.

Fresh-market celery shipments stay fairly constant throughout the year, except for a seasonal peak during November and December. The holiday season heralds the peak of celery use in the U.S., as celery appears on party platters, with vegetable dips, and in turkey stuffing. In the 1990's, January-to-October monthly celery shipments each generally amounted to 7 to 8 percent of the annual total, with the lowest volume shipped in August (7 percent). However, reflecting the Thanksgiving hol-

### Northeast, Midwest, and West Consume More Than Their "Share" of Celery

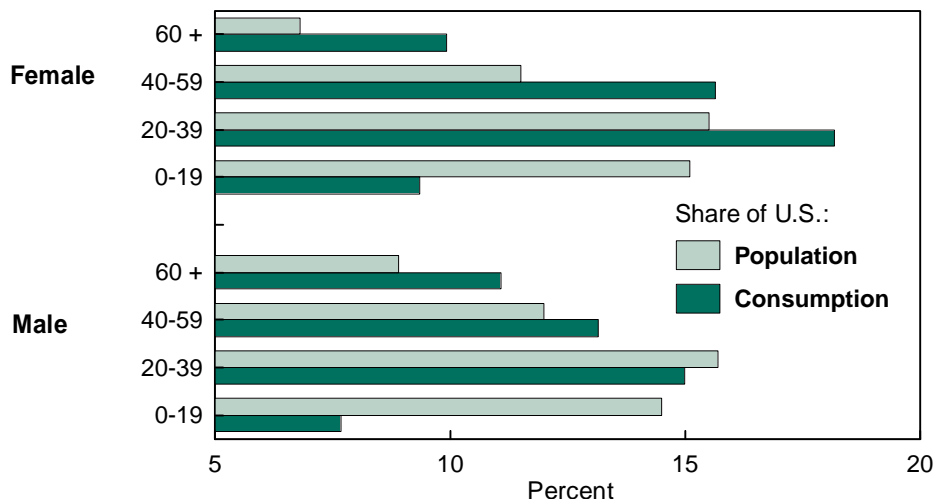
Percent

Source: Derived from USDA's *Continuing Survey of Food Intakes by Individuals*, 1994-96.

Economic Research Service, USDA

## Commodity Spotlight

### Older Age Groups Favor Celery



Source: Derived from USDA's *Continuing Survey of Food Intakes by Individuals, 1994-96*.  
Economic Research Service, USDA

iday, volume rose to nearly 12 percent in November, then fell off slightly to 9 percent in December. December celery shipments were even higher in the 1980's (about 10 percent of the annual total), possibly reflecting changes from decade to decade in the main holiday dishes served in that month.

Celery sells largely in fresh form (including fresh-cut diced and in sticks), with smaller amounts canned, frozen, and dehydrated. According to USDA's 1994-96 Continuing Survey of Food Intakes by Individuals, fresh celery, like most other foods, is consumed largely at home (76 percent). This reflects the wide variety of uses for celery at home—for example, as an ingredient and flavoring agent in main-course recipes, a component of green salads and of sandwich salad spreads, a dipping vegetable for parties, and a convenient snack item.

In the away-from-home market, U.S. consumers most often eat celery in standard "white tablecloth" restaurants (14 percent). Celery shippers have been able to carve only a small niche in the expanding fast-food market, which is responsible for only 4 percent of celery consumption. Consumers eat more than 90 percent of processed celery products in items like soup and dehydrated and frozen products at home.

### Who Eats Celery?

According to regional breakdowns of data from USDA's Continuing Survey of Food Intakes by Individuals, 1994-96, southerners (in a 16-state southern region defined by the Census Bureau) eat proportionately less fresh-market celery than consumers in all other areas of the country. This may reflect food preferences along racial/ethnic lines, as 53 percent of Blacks (non-Hispanic) live in the South, and Blacks are the only major racial group to consume less celery in proportion to their numbers in the population. Specifically, while Blacks account for close to 13 percent of the population, they accounted for only 8 percent of the fresh celery con-

sumed nationwide. Whites, non-white Hispanics, and others (largely Asians) each consumed more fresh-market celery than their respective proportions of the population. Northeasterners consume about half of the national total of processed celery products.

The wealthiest consumers appear to prefer celery more than other socio-economic groups. Households with incomes at least 3.5 times greater than the poverty level (the cutoff point for food stamp eligibility is 130 percent of the poverty level) represent 39 percent of the U.S. population but account for 47 percent of fresh celery consumption. This was the only defined income class whose use proportionally outweighed their population percentage. The 19 percent of the population who earn the lowest incomes consumed just 15 percent. For processed celery products, middle-income consumers accounted for the greatest share of use (63 percent); both upper and lower income groups ate proportionally less of these.

Men eat more celery than do women—53 percent of the total. This may be explained largely by the overall higher caloric intake of men. In proportion to their population shares, both men and women over the age of 60 are strong consumers of celery. Middle-aged men and women also consume more celery than their share of the population. And in what may come as surprising news to some, men between the ages of 20 and 39 also eat proportionately more celery than their share of the population; women in the same age group eat slightly less.

### Celery Culture

Celery seed is very small and light; a pound of some varieties contains more than 1 million seeds. The small seed size makes successful field planting difficult. To assure consistent stands, virtually all commercial celery is started in greenhouses, grown indoors for 10 weeks, and then transplanted. Because each greenhouse-grown plant costs about 2 cents and an acre of celery may contain 40,000 to 50,000 plants, the "seed" cost to establish an acre of celery can be as high as \$1,000. Total costs of production likely exceed \$4,000 per acre.

Celery is a cool-season crop that exhibits fairly uniform growth—a characteristic that allows growers to harvest fields with one pass. Field packing of fresh-market celery (as opposed to cutting and then hauling it to a shed for trimming, sorting, and packing) is the predominant and most efficient harvest method today. Celery destined for processing can be mechanically harvested.

## Commodity Spotlight

Relative to other age groups, men and women under the age of 20 eat little celery. People in this age group account for nearly 30 percent of the population yet reported consuming only 17 percent of the fresh celery. Given the steady nature of celery use over the past several decades, this could reflect a normal maturation of tastes and preferences that favors celery consumption as people age. An alternative scenario suggests that celery use may decline as the current population ages.

### Price Trend Is Flat

Although prices for celery can fluctuate widely (largely due to weather variations), the trend in celery prices during the 1990's was relatively flat. Between 1990 and 1999, nominal f.o.b. shipping point prices trended upward by just 1 cent per month. (F.o.b.—free-on-board—prices include no delivery charge to move the product and load it onto a carrier at a particular point during shipping.) Unlike more storable commodities such as potatoes, fresh-market celery exhibits weak seasonal price variation that reflects relatively consistent domestic marketing throughout most of the year. Celery prices also followed pronounced 3-year cycles in the 1990's, which may reflect recurring weather patterns.

Like many vegetables, the proportion of the retail value of celery accounted for by the shipping-point price has been in a slow but steady decline. During 1995-99, growers and shippers received about 25 percent of the retail value. This was down from 26 percent during 1990-94, 27 percent during 1985-89, and 28 percent during 1980-84. Although a number of factors probably account for this trend, one explanation may be that farm prices are rising more slowly because productivity is growing faster (as efficiency increases) in the farm sector than in the retail sector.

### Celery Root

Native to the Mediterranean region and the Middle East, celery has been around for more than 3,000 years. Used in ancient times at first for ceremonial garnishes and medicinal purposes, celery eventually gained favor with Greeks and Romans as a food-flavoring agent. Celery is a prominent member of the parsley family, along with carrots, anise, and parsnips. Although commercial celery is grown as an annual plant, it is biennial (grows vegetation the first year and fruits and dies during the second). Native celery can be found growing in the wild in damp or marshy areas in the Mediterranean region and in the Caucasus in western Asia.

Modern celery is an improved version of the plant cultivated in Europe during the 18th century. Today's celery is larger, more succulent, and less stringy than its ancestors. Most celery grown in the U.S. is a variant of the Pascal (green) type. Wild celery, called smallage and not found in the U.S., is prized for its seed that is marketed as celery seed, a popular flavoring agent and herbal remedy. The essential oil of celery seed contains several components currently under study for their medicinal properties.

A stalk of celery (sometimes called a head) consists of several individual fleshy leaf stems or ribs called petioles. "Celery hearts" are created by trimming off the outer ribs of a stalk, leaving the tender inner ribs. All portions of a celery stalk are edible, with the leaves and knobby tops useful for flavoring soups and stews.

Like white asparagus, white (blanched) celery is preferred in some European countries. (Blanching, which makes older varieties more palatable, is accomplished in the field before harvest by wrapping, covering, or shading the stalks to exclude light and force them to turn white.) In fact, during the early 1900's, white celery was in vogue in the U.S., and not until the 1940's did green celery become the industry standard. In some European countries today, either the golden (self-blanching) types are grown or green celery is blanched. For example, most celery consumed in the United Kingdom is white, and white celery is also favored in Italy. Other novelties in the celery world include varieties with pink or red stalks.

Celery root, also known as celeriac, is largely a specialty vegetable in the U.S. but enjoys a wider following in northern Europe. Celeriac does not originate from the same plant as fresh-market celery but belongs to another group.

From Waldorf salad to chow mein, celery's versatility is clear. Celery is also well known as a convenient, low-calorie, nutritious food. Combined, these characteristics have resulted in steady long-term demand that has proven celery to be a staple vegetable in American households. **AO**

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## Commodity Spotlight



Agricultural Research Service, USDA

### Rice Prices Remain Low Despite Smaller U.S. Supplies

Rice prices in the U.S. were the lowest in nearly 7 years at the start of the August-July 2000/01 market year. While prices have risen slightly since July, they are still below levels reported in April. The 2000/01 U.S. season-average farm price is projected at \$5.75 to \$6.25 per hundredweight (cwt), the lowest since 1992/93.

The price weakness coincides with production and total supply levels that are below year-earlier records, with ending stocks expected to dip as well. Extremely low prices on the international market are the main factor preventing U.S. prices from rising.

The export price for Thai 100-percent grade B—similar to U.S. southern long grain milled rice—averaged \$185 per ton in September, the lowest in nearly 14 years. An abundance of exportable supplies worldwide and the absence of any significant production shortfall in a major importing country (except for Iran) are behind the weak international prices. Thai prices strengthened in early October due

partly to weather problems in South and Southeast Asia, but have weakened again.

Because the U.S. exports around 40 percent of its rice crop, U.S. prices are sensitive to conditions in the international market. The U.S. is a reliable exporter of high-quality rice, accounting for about 12 percent of global exports, and is typically the third- or fourth-largest exporter. However, the U.S. faces stiff competition in global markets from low-cost Asian rice exporters. If U.S. prices rise relative to international levels, the U.S. price difference over major competitors widens, diminishing U.S. prospects in global markets.

#### ***U.S. Rice Prices Have Dropped Substantially***

U.S. prices for *rough (unmilled) rice* almost steadily declined from early 1999 through July 2000, a result of large supplies in the U.S. and weaker prices in international markets. In 1995/96 and 1996/97, U.S. prices were supported by lower U.S. supplies and strong international prices. Despite the Asian financial crisis that began in the summer of 1997, U.S. rough rice prices remained strong through the first half of 1998/99. This was due largely to record shipments of rough

rice to South America in response to El Nino crop damage in the region.

Strong rice prices combined with declining prices for competing crops brought substantial expansion in U.S. rice plantings from 1997 through 1999. By 1999, U.S. rice plantings exceeded 3.5 million acres, the second largest on record. When 1999 planting intentions were announced in March, U.S. prices began a major decline. From March 1999 to March 2000, the monthly average cash price dropped \$3.11 per cwt to \$5.82. By July 2000, the monthly cash price for all rice was only \$5.47 per cwt, the lowest since September 1993. Prices have strengthened slightly since then, reaching \$5.66 per cwt by mid-September.

The price decline was most severe for long grain rice. However, in late summer, prices for long grain rice began to rise due to tight supplies of high-quality rice prior to the main harvest in the Delta, and to projections for a smaller crop in 2000/01. Long grain prices continued to strengthen in September and early October due to several large food aid purchases and farmers delaying selling rice. Some farmers have been reluctant to market their rice in the face of uncertainty about the size of the 2000 U.S. crop and events in international markets. Prices for medium grain rice, grown mostly in California, remained relatively high throughout 1999/2000 due to tight supplies, a result of several years of weak production in California in the late 1990's.

Prices for *milled rice*, the primary form of rice traded globally, have declined as well. While record U.S. rough rice exports to Latin America supported farm prices in 1997 and 1998, prices for U.S. milled rice started to decline in the summer of 1997 when Asian currencies collapsed. However, impacts of the 1997/98 El Nino in Southeast Asia supported international prices throughout 1998 as Indonesia and the Philippines made record purchases. This limited the drop in U.S. prices even though the U.S. was not a major supplier to either country.

By early 1999, the price-supporting effects of the 1997/1998 El Nino faded, causing Asian prices to spiral downward.

## Commodity Spotlight

To remain competitive, U.S. prices had to decline as well. From January 1999 to January 2000, prices for southern long grain milled rice dropped 25 percent to \$287 per ton. By late May, prices had dropped to \$248 per ton, the lowest since the summer of 1987. A tightening of U.S. supplies prior to the 2000 harvest, followed by several food aid purchases in September and October have raised prices for U.S. long grain rice. By mid-October, price quotes for U.S. long grain milled rice had climbed to \$276 per ton, the highest since April 2000.

In contrast to long grain milled rice, prices for California medium grain milled rice rose during 1998/99 and declined only slightly in 1999/2000, even with a larger California crop. By mid-summer 2000, prices for California medium grain rice began to drop more sharply on expectations of a record harvest. In late September, prices had fallen to \$375 per ton, \$66 below levels reported in mid-July.

### ***U.S. Supplies Drop From 1999/2000 Record...***

The U.S. is the only major rice exporting country expecting a tight supply situation

by the end of the 2000/01 (August-July) market year. By July 31, 2001, ending stocks are projected at 27.1 million cwt, down nearly 2 percent from a year earlier. This results in a stocks-to-use ratio of 13.3 percent, just fractionally above a year earlier.

U.S. production is well below the record crop of a year earlier. In 2000, U.S. rice plantings dropped 12 percent to 3.1 million acres, the lowest since 1996/97. The area contraction was driven largely by low rice prices at planting time, especially prices for long grain rice, which accounts for more than 70 percent of U.S. rice area and was responsible for almost all of the reduction. In addition, problems stemming from salt-water intrusion caused by early season drought likely contributed to less rice acreage in Louisiana. Short grain acreage—about 1 percent of total plantings—is also down. Medium grain plantings, making up more than one-fourth of U.S. rice acreage, actually rose, with California accounting for the bulk of the increase.

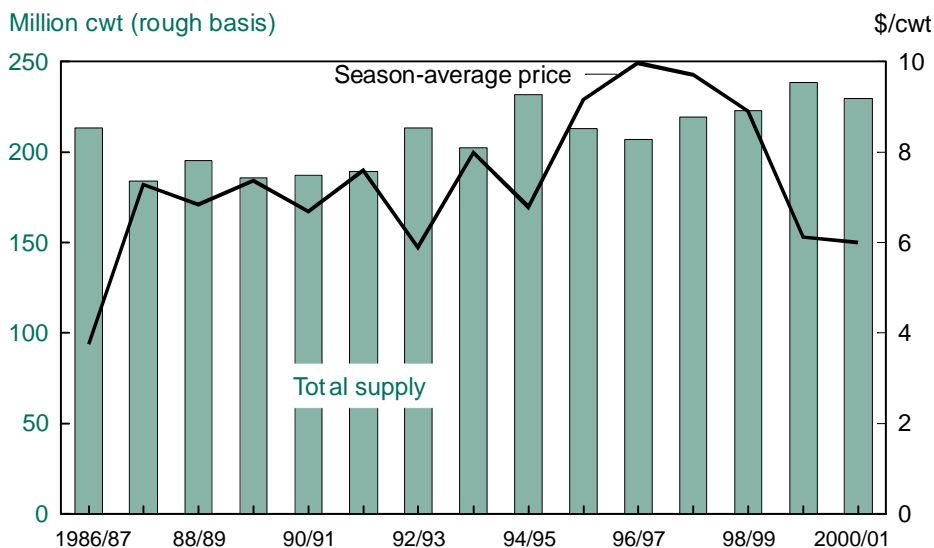
Although average yield is projected at a record 6,230 pounds per acre, total U.S. production is projected to drop 7 percent to 192.2 million cwt. As a result, even

with beginning stocks up 25 percent from a year earlier to 27.5 million cwt, total U.S. rice supplies are projected to drop more than 3 percent from the 1999/2000 record to 230 million cwt, virtually the same as 1994/95, the second-largest crop on record.

Total use is projected to drop by 4 percent—to 203 million cwt. Exports, projected to fall 9 percent to 80 million cwt, will account for all of the decline. Milled rice shipments, where the U.S. faces its strongest competition from Asian exporters, are expected to account for almost all of the reduction. Exports of rough rice are expected to remain virtually unchanged. None of the Asian exporters ships rough rice, although Argentina and Uruguay export rough rice within Latin America.

In contrast to exports, domestic use is projected to increase fractionally to a record 122.9 million cwt. The domestic market is much less sensitive to price changes than the international market. Domestic buyers demand high-quality rice meeting tight specifications for appearance, consistency, and degree of milling, as well as taste and cooking attributes. This is true for all domestic uses—direct food use, beer, processed foods, and pet food.

### **U.S. Farm Price for Rice Is Projected Lowest Since 1992/93 Even as Supply Slips**



Marketing year August-July. 2000/01 price is midpoint of projected price range. Supply is beginning stocks plus production plus imports.

Economic Research Service, USDA

Few other suppliers can meet these standards, a major reason Asian exporters have not established a larger presence in the U.S. market. Except for high-quality aromatic rices from Thailand, India, and Pakistan, the U.S. imports very little Asian rice.

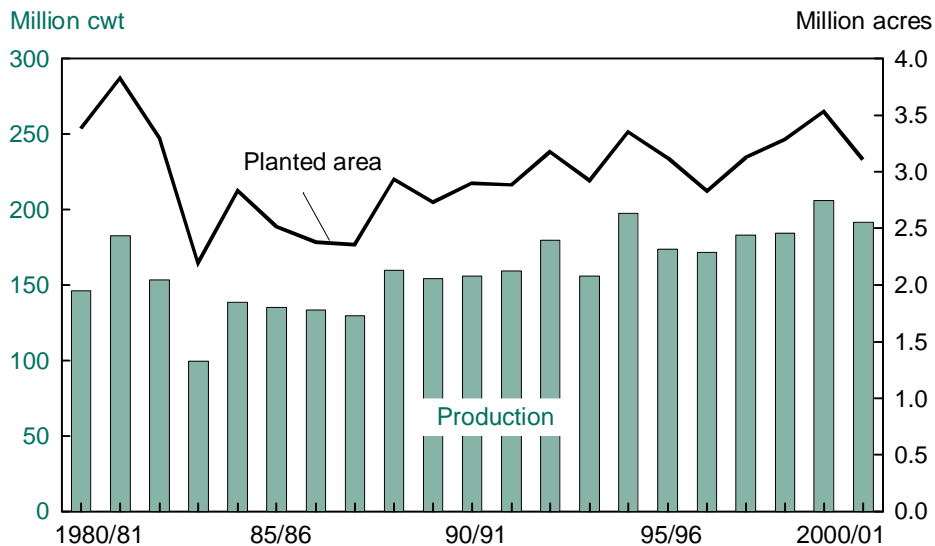
For the past 20 years, the domestic market has grown steadily and has made up a larger share of total use. In 2000/01 the domestic market is expected to account for more than 60 percent of total use, in contrast to 1980/81 when exports accounted for almost 60 percent of total use.

### ***...With Long Grain Stocks The Tightest Since 1995/96***

The U.S. long grain market is projected to face an extremely tight supply situation by the end of the 2000/01 market year, due primarily to this season's smaller

## Commodity Spotlight

### U.S. Rice Crop to Decline in 2000/01 with Plantings Down 12 Percent



Marketing year August-July. 2000/01 production projected.

Economic Research Service, USDA

crop. Ending stocks of long grain rice are projected to drop almost 16 percent to 13 million cwt, the lowest since 1995/96. The stocks-to-use ratio is projected at 9.2 percent, the second lowest on record since supply and use were first reported by grain type in 1982/83.

The U.S. long grain crop is projected to drop 14 percent in 2000/01 to 130 million cwt, the smallest since 1997/98. Although beginning stocks were 11 percent larger than a year earlier, total long grain supplies are projected to drop almost 11 percent to 155 million cwt.

Long grain plantings dropped more than 17 percent from last season's record to 2.26 million acres, the smallest since 1996/97. The area contraction was driven largely by a sharp decline in prices. Between January 1999 and January 2000, price quotes for U.S. long grain rice dropped more than 40 percent to less than \$5.50 per cwt. The completion of Brazil's record 1998 purchases, declining global prices, and a record 1999 U.S. long grain crop were responsible.

Total use of long grain rice is projected to drop 10 percent to 142 million cwt, with both exports and domestic use down substantially from a year earlier. In fact, U.S.

long grain exports are projected to be the lowest since 1996/97, a result of smaller supplies and intense price competition with Asian exporters. In the domestic market, both brewers and some food processors will likely shift from long to

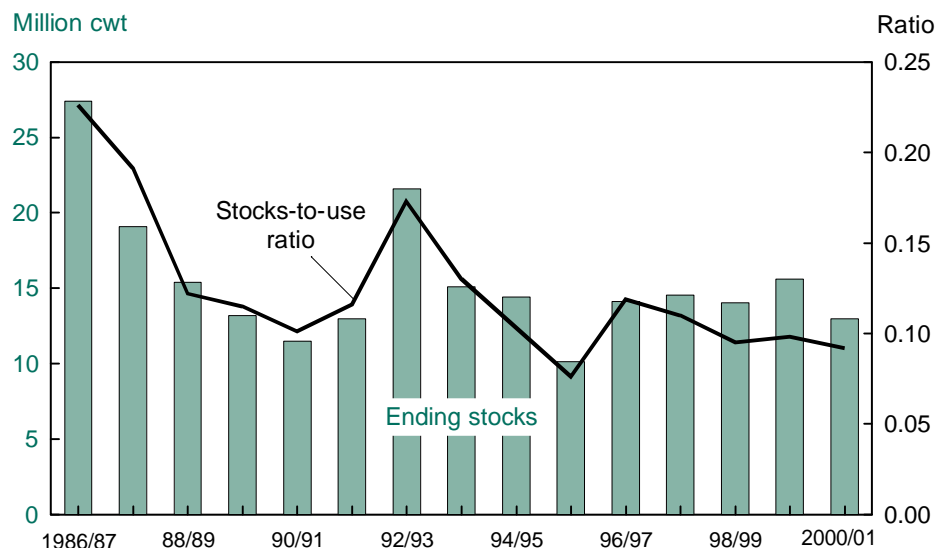
medium grain rice due to changes in relative prices.

### Medium/Short Grain Market Faces Bearish Outlook

In contrast to the long grain market, the combined medium/short grain rice market is not confronting tight supplies. In fact, total supplies are projected to rise 16 percent to more than 73 million cwt, the largest since 1994/95. An increase of more than 50 percent in beginning stocks and a 14-percent jump in production to 61.7 million cwt are responsible for the larger supplies.

Combined medium/short grain plantings are estimated at 850,000 acres this year, up more than 6 percent from a year earlier and the largest since 1994/95. In California—where medium grain accounts for more than 95 percent of rice acreage—rice plantings are the largest since 1981 and projected to produce a record harvest. Medium grain prices, especially in California, were relatively strong at planting, a major factor in the area expansion. Medium grain prices had been supported for several years by tight supplies, a result of weather problems for several years in California and declining acreage in the South in 1997 and 1998.

### U.S. Long Grain Rice Stocks to Fall 17 Percent in 2000/01, Drawing Down Stocks-to-Use Ratio



Marketing year August-July. 2000/01 projected.

Economic Research Service, USDA

## Commodity Spotlight

Medium grain plantings in the South—about 10 percent of the region's rice acreage—are up slightly this year following an increase of more than 20 percent in 1999.

Total medium/short grain use is projected to rise 15 percent to almost 61 million cwt. The domestic market accounts for nearly all of the growth as some processors are expected to shift from long to medium grain. Cereal makers and brewers can shift between rice from California and from the South as relative prices change. Exports are projected to expand fractionally.

Given expectations of substantially larger supplies, farm prices for medium grain rice are likely to be lower this year. So far, there has been little buying of the 2000 medium grain crop grown in California. However, prices for California milled rice began dropping in late July in anticipation of a record medium grain crop this year. Prices are currently quoted at \$375 per ton, down from \$441 at planting time. California medium grain rice typically sells at a premium to southern long grain rice.

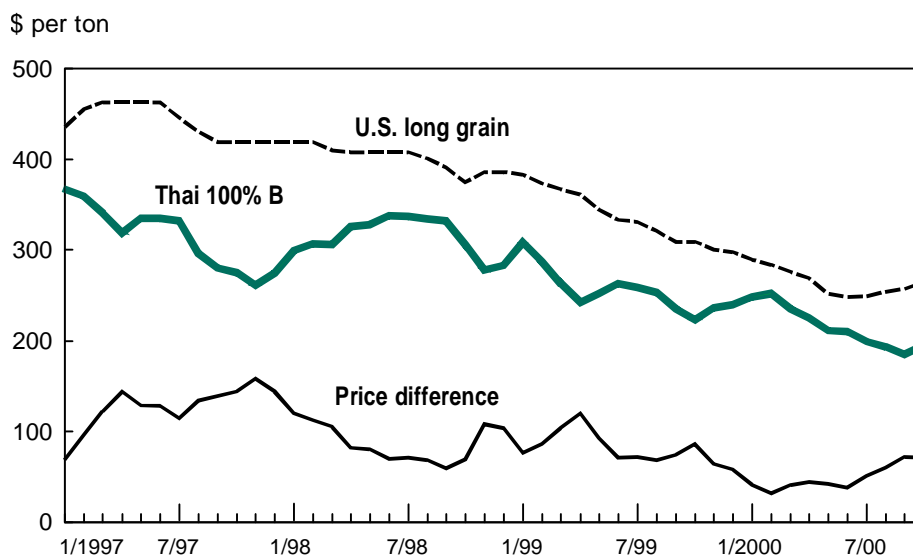
### ***Supplies Abundant in Major Exporting Countries...***

Tight U.S. supplies, especially for long grain rice, are not expected to significantly boost U.S. prices, primarily because international prices are extremely low. By late September, with abundant supplies in exporting countries and modest import growth, international prices were the lowest since January 1987. Prices rose in early October due to problems stemming from severe flooding in South and Southeast Asia and a large sale of Thai rice to South Korea. Since then, however, prices have contracted somewhat on an absence of major new sales.

The U.S. price differential over Thai prices had been widening since June and was more than \$80 per ton in mid-October, the largest since early November 1999.

With a few exceptions, none of the major rice exporters or importers is experiencing a crop shortfall this year. Global production is projected to drop more than 1 per-

### **Price Difference Widening Between U.S. and Thai Rice**



Monthly average of weekly price quotes for milled rice. U.S. long grain is No.2, 4 percent broken. Marketing year August-July. 2000/01 projected.

Economic Research Service, USDA

cent from the year-earlier record, resulting in an almost 7-percent drop in global ending stocks. But China, which accounts for most of the contraction in both production and stocks, has more than adequate supplies to meet domestic needs and remain a major exporter.

Major exporters of *indica* rice are Thailand, Vietnam, China, the U.S. (southern long grain), India, and Pakistan (see *AO* December 1999 for a discussion of rice types). *Indica* accounts for nearly 80 percent of global rice trade, and these top six exporters account for more than 80 percent of global rice shipments. Except for Pakistan—which is experiencing a shortage of irrigation water—and the U.S., the major exporters are forecast to ship more rice in 2001. Pakistan's exports are projected to drop slightly, and U.S. exports are projected to be flat.

The severe flooding that occurred in parts of South and Southeast Asia is reported to have caused some crop damage in Thailand and Vietnam, although reduction of their exports is not expected in 2000 or 2001. Cambodia and Laos also experienced severe flooding, reducing 2000/01 production.

Parts of Bangladesh (a major importer) and eastern India have experienced severe flooding as well, but it is too early to assess any crop damage to these two countries. Rice farmers in these two areas can harvest up to 3 crops a year. Thus, damage to one crop can often be offset by larger production from the following crop.

Argentina and Uruguay, also exporters of *indica*, are projected to produce smaller crops in 2000/01. Nevertheless, both will have more than enough rice to supply virtually all the import needs of Brazil, which purchases the bulk of their exports. However, in some years when supplies were inadequate in Argentina and Uruguay, the U.S. has supplied a large share of Brazil's imports.

Among *japonica* exporters—Australia, Egypt, the European Union, China, and the U.S.—supplies are more than adequate to meet expected global import needs. *Japonica* rice (including California medium grain) accounts for about 12 percent of global rice trade. *Aromatic* rice—primarily Thai jasmine and basmati from India and Pakistan—and *glutinous* rice—mostly from Southeast Asia—account for the remainder of global rice trade.



## Commodity Spotlight

### *...As Major Importers Harvest Bumper Crops*

Supplies are abundant in the major importing countries as well. The world's largest rice importers are Indonesia, Iran, the Philippines, Nigeria, Brazil, Bangladesh, Iraq, Saudi Arabia, Japan, Malaysia, and Senegal. Except for Japan, these countries import mostly indica rice. Among them, only Iran is suffering from a production shortfall that is pushing imports higher in both 2000 and 2001. Record or near-record crops are projected for Indonesia, the Philippines, Bangladesh, and Malaysia. Nigeria's crop, although not a record, is the largest in several years.

Even with bumper crops in several major importing countries, global import demand is projected to rise in 2001. Total global imports are projected to rise nearly

10 percent in 2001 to 24.6 million tons. However, trade remains well below the 1998 record of more than 27.3 million tons.

Indonesia, the world's largest rice importing country, accounts for the bulk of the expansion, with imports projected to rise from 2 million tons this year to 3 million in 2001. With stagnant production, Indonesia cannot meet growing domestic demand. The Philippines is also projected to import more rice in 2001, a result of growing demand and fractionally smaller production. Bangladesh's imports are projected higher in 2001 even with a near-record 2000/01 crop. However, import levels for these three top buyers remain below their 1998 records.

Imports are projected higher for Saudi Arabia, which does not grow rice, as well as for Nigeria and Senegal. Growing

imports in these countries are largely the result of rising populations and higher incomes. In contrast, Brazil's imports are projected to be flat in 2000 due to large supplies resulting from bumper crops in 1998/99 and 1999/2000.

Little trade growth is projected in the japonica market. Imports in Japan—the largest importer of japonica rice—are driven by World Trade Organization (WTO) requirements and are not expected to exceed minimum access levels. South Korea, Turkey, and Jordan also import japonica rice. Like Japan, South Korea's imports are driven by WTO requirements and are not expected to exceed minimum access levels. Small but steady import growth is projected for the eastern Mediterranean. **AO**

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## **T**he 1999 Rice Situation and Outlook Yearbook . . .

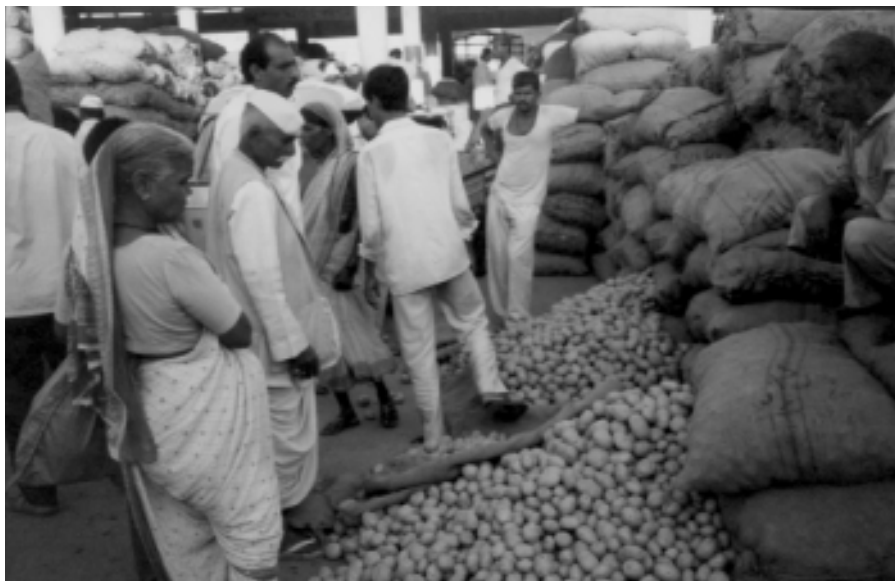
with special articles on *herbicide-tolerant varieties*, and *issues for upcoming WTO negotiations*

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Full report available this month—on the Economic Research Service Website

[www.econ.ag.gov](http://www.econ.ag.gov)

## World Agriculture & Trade



Anwarul Hoque

# India Relaxes Restraints on Agricultural Imports

**A**fter years of isolation, India has slowly begun opening its doors to the world market. In a major policy shift, the second largest country in the world has been removing many licensing and quota restrictions on agricultural imports since 1997. Although India is replacing quotas with high tariffs, by dismantling many trade barriers the country is moving incrementally toward open trade and greater integration with the global market.

As its government liberalizes trade policies, India emerges as a potentially large market for agricultural and consumer products. Its population, which has surpassed a billion, is growing by 1.9 percent a year, and its gross domestic product of more than \$370 billion, Asia's third largest, is increasing at an average 6.5 percent. Rising population, higher incomes, and changing tastes and preferences are today creating a greater demand for food that in the past has been supplied by India's own agriculture.

The country's agricultural sector has both expanded and diversified in the past few decades. For example, during the post-green revolution period, India's cereal production grew faster than the country's population, although other crops grew less

rapidly. Despite growth of the farm sector, domestic production alone cannot support the country's total food needs. Restrictive trade policies have until recently kept India's agriculture under tight rein and insulated it from outside competition. Now, to meet domestic demand and to adhere to trade agreements, the country must join the world market—thus the recent agricultural trade policy changes.

### *The Government's Goal: A Self-Sufficient Agriculture*

India is a net exporter of agricultural products. In 1991, before the government instituted major economic and trade policy reforms, agricultural exports stood at \$3.2 billion, and agricultural imports at \$0.8 billion. With trade liberalization, exports rose to \$6.7 billion by 1999, and imports to \$3.3 billion.

India's agricultural production has grown at an annual average rate of 2.9 percent in the last four decades. The country now stands among the leading producers of many crops, including rice, wheat, coarse grains, cotton, and pulse crops (seeds of legumes such as peas and beans). It is self-sufficient in cereal production and ranks high among producers of oil meals,

fruits and vegetables, tea, spices, and cashew nuts. Its cattle herd is the largest in the world, and its milk production the highest. India exports rice, oil meals, tea, coffee, cashew nuts, and spices. It currently imports edible oils, pulse crops, cashew and other nuts, spices, wool, hides, and skins. In years of low production, it also occasionally imports wheat, oilseeds, sugar, and cotton.

With self-sufficiency as its goal, the Indian government for many years all but controlled the country's agriculture by subsidizing and regulating the domestic market. A sizable part of the government's budget went to subsidies for production inputs, such as irrigation, power, and fertilizer, and to significant investments in agricultural research, extension, and infrastructure. The government regulated agricultural markets, encouraged farmers' production with price supports, and bought their major food crops at supported prices. A public distribution system (PDS) sells government-procured food grain stocks to consumers at subsidized prices.

In the area of trade, India restricted imports and subsidized exports. Tariffs, quotas, import licensing, and state monopolies became the mainstays of trade policies that virtually banned private importing, including the importing of agricultural products. Restrictive trade policies were so pervasive that about 11,000 products, including all food and consumer items, were controlled by some import barrier other than tariffs. The upshot was that importing any consumer product was effectively prohibited, and only state-owned agencies could import any products at all. Because of the trade restrictions, the level of agricultural imports remained miniscule compared with the size of the domestic market.

While restricting imports, the government encouraged exports for some commodities. Among the incentives were subsidies, tax exemptions, and licenses granted for importing necessary intermediate products (e.g., restricted raw materials and components).

## World Agriculture & Trade

### Trade Restrictions Loosened

India had taken some steps to liberalize its trade policies in the 1980's, and the process gathered steam with the economic reforms of the 1990's. In 1991, the government set in motion sweeping policy changes that abolished import licensing for all but about 3,000 products. Products that still required licenses or quotas went on a negative import list that specified which items were banned or restricted, and which could be traded by state agencies but not by private traders (see sidebar). On this list went agricultural and consumer products whose import had been restricted—essentially all of them.

Between 1991 and 1997, the Indian government removed import quotas from about 15 percent of agricultural products on the negative import list. At that point, about 80 percent of internationally traded agricultural and livestock products were still restricted imports, appearing under about 1,000 tariff line items on the list.

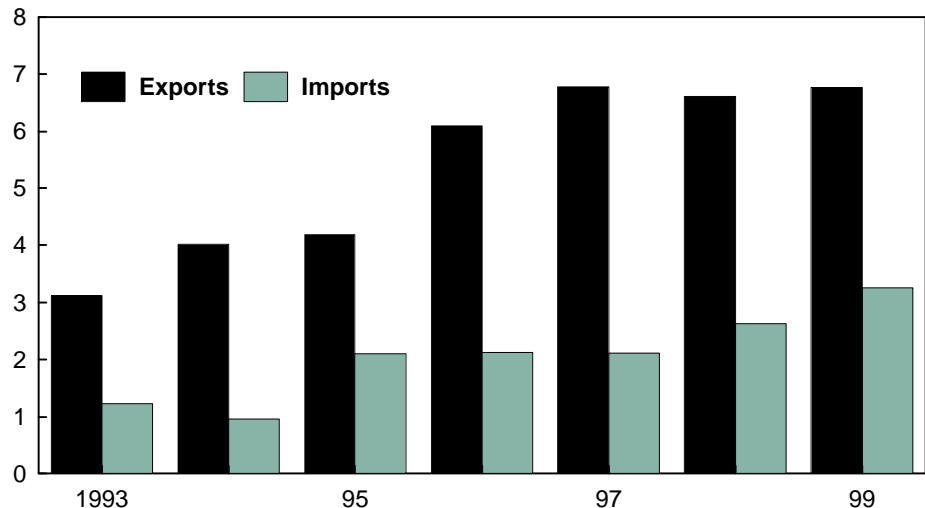
The U.S. and other trade partners pressed India to remove all quota restrictions on agricultural and consumer products and in 1997 brought the matter to the World Trade Organization (WTO) for resolution. With pressure building, India moved more quickly to take products off the negative list. Since 1997, it has freed 620 agricultural products and, after the WTO's ruling that India should conform to WTO obligations, it agreed to free the remaining 377 tariff line items by 2001. This year it has so far removed restrictions on 228 of these items. When the remaining 149 tariff line items come off the list in 2001, India's agricultural and consumer product imports will be free of quotas.

The 228 items freed of tariffs in 2000 include processed and semiprocessed agricultural products. Items that can be imported now are seafood and fish products; meat and meat products (except poultry); milk and dairy products; fresh and processed fruits and vegetables; flour, grit, and meal of wheat, rice, and coarse grains; nuts and spices; and coffee, tea, frozen fruit juices, tobacco, and salt.

The 150 restricted items scheduled to come off the list in 2001 are agricultural and consumer products in high demand in

### India Is a Net Exporter of Agricultural Products

\$ billion



Source: Foreign Agricultural Service (Attaché reports), USDA

Economic Research Service, USDA

India, among them food grains, poultry, fish, dairy products, vegetables, fruits, certain spices, and processed and semi-processed meat.

As trade restrictions were relaxed, private traders were allowed to import some bulk agricultural products that used to be imported only through the state trading agencies—cotton, sugar, oilseeds, and vegetable oils. About 34 bulk agricultural products, such as rice, wheat, coarse grains, cinnamon, cloves, coconut oil, and oil cake—items that represent about 45 percent of India's total agricultural production—continue to be imported only by state agencies. India considers these “sensitive” products and intends to maintain strong import control over them for as long as possible.

### Agricultural Import Prospects Mixed

Despite the removal of longtime restrictions, India's agricultural imports will probably not mushroom in the short run. The level of imports will depend on demand for a product and on its price in India. The intent of the government as it replaces quotas with tariffs is to raise prices on imports to dampen consumer demand for them. As a result, import

demand for products widely produced in and exported by India will indeed be limited; these include shrimp, prawns, mushrooms, coffee, and tea. Demand for imported products with limited (or no) existing local markets or not produced in India, such as kiwi fruit, stuffed pasta, and dried asparagus, should be greater. For some agricultural commodities, domestic prices remain lower than import prices in most years. Removing import restrictions, even without imposing tariffs, would not induce the import of these commodities.

Because most of India's 1 billion people have low incomes, domestic demand today is mainly for basic, low-priced foodstuffs. Removing import restrictions would, by and large, benefit this group by making basic foods available from the world market at competitive prices. India's growing middle-income group, however, estimated at around 250 million people, offers a viable nascent market for processed and semiprocessed foods, drinks, and upscale consumer-ready food products; as income increases, tastes and preferences change.

Consumer-oriented imports have risen since the lifting of restrictions, and the increase is expected to continue, even to

## World Agriculture &amp; Trade

accelerate. Among consumer goods, non-meat food products have better import prospects than meat products because most of India's population is vegetarian. For the same reason, processed and semi-processed vegetables, fruits, and dairy products have high import potential, as do such items as soft drinks, and prepared cereals. High demand for almonds, nuts, and dry fruits will increase the country's imports with the removal of quotas.

Among meat and meat products, poultry has general appeal and strong import potential. However, poultry remains under quota until 2001, and tariffs on poultry meat have been hiked from 35 percent to 100 percent to discourage a surge of imports. Many seafood products will continue to have limited import potential, as India is an exporter of marine products. Import prospects for tea and coffee are also limited, because India grows and exports these products.

Among bulk agricultural products, pulses, coarse grains, oilseeds, and vegetable oils have the highest import potential. Pulses are a staple of the Indian diet, particularly for vegetarians. Although India is the world's largest producer of pulses, to meet the increasing demand for that food, it is also the largest importer, consistently importing 600,000-800,000 tons a year.

Prospects are high for large pulse crop imports, but they are sensitive to prices.

India is self-sufficient in wheat and rice and even exports these grains in small quantities. Domestic production of coarse grains, particularly of corn, has remained limited, however. Corn demand has been rising with the rapid expansion of the poultry and starch industries. So while imports of coarse grains are still restricted, an exception was made recently for corn imports. India has now agreed to a tariff-rate quota (TRQ) of 350,000 tons of corn in the first year (2000), rising to 500,000 tons in the fourth year, at a rate of 15 percent (applied to quantities up to the quota limit). The new bound tariff rate (i.e., allowable maximum) on corn imports over the quota limit has been set at 60 percent.

India produces 26 million tons of oilseed annually, most of which is crushed for edible oils. But the country's demand for edible oils is so great that India imports more than 4 million tons every year—mostly palm oil, but also soybean and sunflower oils. Sustained income and population growth will continue to drive up import demand for all three edible oils. In contrast, oilseed imports are expected to remain sluggish due to high tariffs, phytosanitary regulations, and the lower,

highly competitive prices of imported edible oils.

India has reemerged as a net importer of cotton since trade liberalization. It now imports specialty medium- and long-staple cotton, and the potential for greater cotton imports remains high.

### ***U.S. Exports to Expand***

U.S. exports of agricultural products to India averaged \$165 million annually in the last 5 years, which amounted to a 3- to 5-percent share of India's agricultural imports. U.S. exports are expected to increase substantially after quotas are removed in 2001.

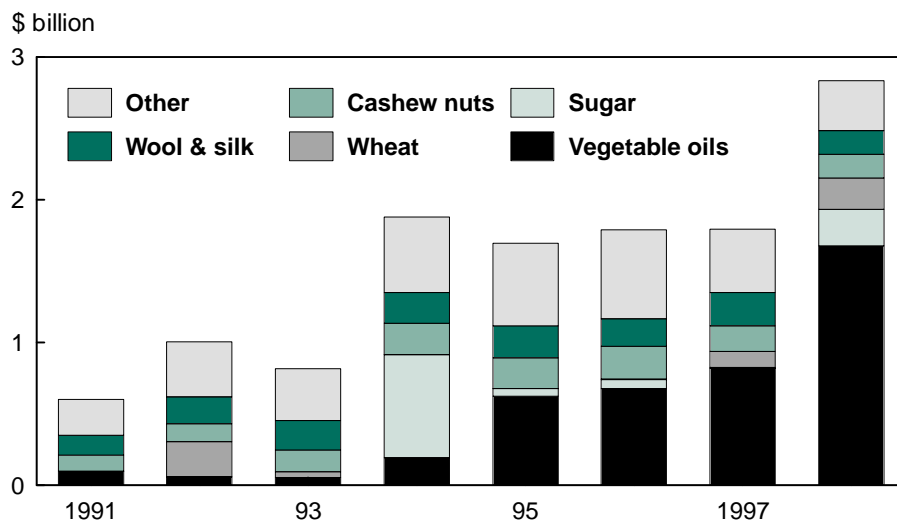
Major U.S. agricultural exports to India are coarse grains, cotton, pulses, edible oils, fruits and nuts, and hides and skins. U.S. exports of corn, soybean oil, and sunflower oil are slowly rising since removal of import restrictions, and these have strong growth potential. U.S. dried peas have found an expanding market in India, where their quality makes them preferable to domestic varieties.

The best niche-market prospects for U.S. exports are processed foods and consumer-oriented products. In the last few years, exports of consumer-oriented products have risen sharply, surpassing bulk products. U.S. exports of almonds, dried fruits and nuts, dairy products, breakfast cereals, and processed fruits and vegetables are increasing. As India opens its market to consumer-ready processed foods and drinks, U.S. exporters are likely to acquire a larger share of that market, offering a variety of products that Indian consumers want. Because Indian consumers generally are very price-conscious, a rise in U.S. exports will depend on price as well as on the availability of a suitable variety of products.

### ***New Tariffs Will Limit Consumer Demand***

By replacing quotas with high tariffs, India's government indicates that its promotion of free trade is not without restraint. In fact, it has imposed high tariffs on products removed from quota restrictions specifically to reduce consumption of imported products and to

**Vegetable Oils Accounted For More than Half of India's Agricultural Imports In 1998**



Source: Foreign Agricultural Service (Attaché reports), USDA

Economic Research Service, USDA



## World Agriculture & Trade

### India's Changing Trade Restrictions

For almost half a century, India maintained one of the most complex and restrictive trade regimes in the world. It imposed a system of high tariffs and stiff nontariff barriers such as licensing, quotas, and state trading that became increasingly complex over the years and virtually closed off the country from the world market.

In its 1991 economic reform, India's government made some drastic changes in trade policy that abolished import licensing for all but 3,000 products, including all agricultural products and consumer goods, which were placed on the so-called negative list. Severe quantitative restrictions on these items prevented their import without license from the government.

Depending on how restricted their import was, items on the negative list fell into one of three categories: nonpermissible, restricted, and state monopoly. The banned, or nonpermissible, list contained only a few products prohibited on grounds of religious and cultural sensitivity (for instance, tallow, fat, and oils of animal origin). Bulk agricultural commodities (among them, grains, edible oils, oilseeds, and sugar) went on the state monopoly list—they could be imported only by the state's trading monopolies, which controlled where they went. All other products—those that could be imported within quota limits and with government license—made up the restricted list. Another limited permissible group of items, the Special Import License (SIL) list, was created later as a slightly freer variation of the restricted list. Most food and all consumer-oriented products other than those on the state monopoly list appeared on either the restricted list or the SIL list, among them fresh, chilled, processed, and semi-processed foods, seeds, fruits, and vegetables. From time to time, products were freed for import by moving them from the negative list to the Open General License (OGL) list. The OGL products still required licenses but could be imported in any numbers.

India's right to apply import restrictions dates from 1949. As a developing country with low foreign exchange reserves, India obtained an exception from the General Agreement on

Tariffs and Trade (GATT) that allowed its government to set such restrictions, on grounds of balance-of-payments (BOP) provisions of the GATT's Article XVIII B. Those provisions allow a member country whose BOP difficulties arise mainly from efforts to expand its internal market and its trade to resort to quantitative import restrictions. Since imposing import restrictions in 1957, India had always claimed the BOP exception rule and had opposed any outside pressure to remove the restrictions.

With the Uruguay Round Agreement (URA) signed in 1995, India was obligated as a signatory to remove quantitative restrictions from all products, including agricultural and consumer goods, as such restrictions were prohibited by Article XI of the GATT 1947 and the URA 1994. India nonetheless continued to maintain the restrictions, again claiming exception under Article XVIII B of the GATT. India's BOP position, however, had changed considerably since the 1991 economic reform. Its foreign exchange reserves had progressively increased, from \$1 billion in 1990 to \$25 billion in 1997. The U.S. and other trade partners complained to WTO that India could no longer justifiably claim a BOP exception under Article XVIII B, and that by continuing the quota restriction, the country was violating Article XI of the GATT. When the U.S. pressed India bilaterally to remove its quantitative restrictions, it found India still reluctant to do so. In 1997, the U.S. set in motion the dispute resolution mechanism of the WTO.

The Dispute Settlement Body, as well as the Appellate Body of the WTO, ruled that India was not justified in maintaining import quotas on BOP grounds and that it should bring restrictive import measures into conformity with its WTO member obligations. In accordance with the ruling, India negotiated with the U.S. bilaterally, which led to an agreement in 1999—India would remove all quotas, in two phases, by 2001. Since India had already removed quotas from about 1,285 tariff lines, 1,429 remained as of December 1999. India agreed to free 714 tariff lines in the first phase on April 1, 2000 (implemented), and the rest by April 1, 2001.

protect the domestic industry from effects of the world market's competitive prices. WTO rules permit tariff setting, as long as applied (actual) tariff rates do not surpass bound rates. India's applied rates are mostly lower than the bound tariffs.

Moreover, India recently negotiated changes in its tariff bindings of some products under WTO rules (in Article XXVIII of the Uruguay Round Agreement). According to a 1999 U.S.-India Agreement, bound rates have been increased on 15 agricultural products, including powdered milk, rice, corn,

sorghum, millet, spelt, rapeseed oil, and grapes. In return, India has lowered bound rates on 23 items, including dairy products, citrus fruits, fresh and dried fruit, sunflower and olive oil, dried peas, orange juice, potato preparations, and wool.

India is now imposing tariffs up to their allowable maximum for imported agricultural and consumer goods to protect domestic production. The recently announced peak tariff rate is 35 percent, plus a 3.5-percent surcharge and a 4-percent special duty on items from which

import quotas have been removed. In addition, countervailing duties ranging from 16 to 32 percent are imposed on some products. Basic tariffs have been raised on poultry (100 percent), vegetable oils (25 to 45 percent), dairy (15 percent), and tea and coffee (35 percent). India has recently imposed maximum tariffs on imports of rice (80 percent), corn (15 percent in-quota rate, 60 percent over TRQ limit), and powdered milk (15 percent in-quota rate, 60 percent over TRQ limit of 10,000 tons). Together, these duties significantly raise the import prices of many agricultural products.

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Among other protective options India is considering are antidumping measures for products that enter India at prices below the “normal” value in the exporting country, as well as renewed quota restrictions. In addition, under WTO rules (Article XIX), a country, in accordance with its legislature, can adopt safeguard measures by imposing quantitative restrictions on products of an injured industry for a temporary period of 4 years, extendable to 10

years if the industry needs more time to adjust.

India today stands at a crossroads with regard to liberalizing its agricultural trade. While the government has largely done away with licensing, it has put in place several new protective policies that reflect caution about allowing open trade. These and further protective measures the government is considering would blunt some

of the trade potential introduced by removal of quotas. The immediate prospect for agricultural imports is somewhat uncertain. But with incomes rising and given the government’s general support for globalizing the country’s economy, over the long run India should be a growing market for food and consumer-ready products. **AO**

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## Research & Technology



Agricultural Research Service, USDA

# Agricultural Genetic Resources: Building Blocks for Future Crops

**A**gricultural genetic resources—living matter used by plant breeders to develop or enhance desirable traits in crops such as high yields, resistance to disease, and drought tolerance—play a critical role in agricultural production. Genetic improvements from plant breeding account for half the crop yield increases over the past six decades. But continuing evolution of diseases and other pests presents a threat that can quickly undo the gains. Infusions by plant breeders of genetic resources from the wide array of wild and improved plant species found around the world helps maintain and extend the plant characteristics that advance agricultural productivity.

### *Diverse Genetic Resources Can Improve Cultivated Crops*

All agricultural crops descend from wild or weedy ancestors, many of which are still found today. Selecting desirable plants to cultivate began early in human history, and as plants were domesticated for agricultural production, they evolved and were improved by farmers over many generations—before the use of modern breeding techniques. These farmer-improved crop varieties are called *landraces*. Landraces continue to be grown

in some parts of the world, and they are generally very diverse because they are adapted to specific environments.

Plant breeding in the modern sense is a relatively new development. Early in the 20th century, modern breeding techniques were developed that relied on the planned crossing of distinct parent plants to facilitate selection of specific desirable traits. At the same time, the disciplines of genetic science and statistics were emerging. Germplasm (genetic material) that has been improved by plant breeding is generally referred to as “modern” germplasm. Modern germplasm includes genetic material in cultivars (varieties) used by farmers, as well as “breeder lines” modified by plant breeders for use in creating new cultivars.

For different types of crops, breeders have developed elite germplasm and selected traits that improved yields, resistance to disease and stress, quality, and other production characteristics. Some of the yield gains from genetic improvements have arisen because of “pure” yield traits, or traits that increase yields in ideal growing environments. Yield gains also result from plants’ improved ability to use inputs—e.g., fertilizer and water.

Breeding for resistance—which includes tolerance—has become a primary goal of plant breeders. Resistance traits make plants less vulnerable to pathogens, thereby increasing the level and consistency of crop yields. Because diseases and other pests evolve over time, breeders need continually to incorporate new and diverse germplasm, sometimes drawing on wild relatives and landraces to find specific traits. New varieties are resistant for an average of 5 years, although it generally takes 8-11 years to breed new varieties. Breeders also work on developing varieties that can tolerate nonbiological stresses such as drought. Nonbiological stresses can also change over time, although generally less rapidly than diseases and other pests.

Among the desirable characteristics developed by breeding to enhance crop production efficiency are rapid and simultaneous development during the germination, flowering, and maturation stages, as well as uniform height for easier mechanical harvesting. Varieties of a commodity may also be bred for end-use characteristics—e.g., oranges for processing into juice or for the fresh produce market. Breeding for quality traits also has produced high-oil corn, as well as wheat with improved gluten and golden rice with heightened levels of vitamin A.

The overall genetic diversity of crop varieties that farmers choose to grow can affect the severity of outcome of a disease or other pest infestation. Genetic uniformity does not necessarily mean that a variety is more vulnerable to diseases and other pests. Modern varieties often are bred for superior resistance, hence their popularity. Nonetheless, as diseases and other pests evolve to overcome host-plant resistance, genetic uniformity increases the likelihood that a particular pest mutation, by having a larger susceptible area, will be an evolutionary success. With a larger crop base for an evolved disease or other pest to successfully attack, the potential severity of losses is greater and could even reach epidemic levels.

Although defining and measuring on-field genetic diversity is difficult, many scientists believe that modern breeding techniques have narrowed the genetic base of cropped varieties as increasing percent-

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ages of total production are devoted to more genetically uniform products. For example, the U. S. Southern corn blight of 1970—which caused a 15-percent yield loss nationwide—was associated with a gene that was susceptible to a new strain of blight. Because the gene was closely linked to the male sterility gene broadly used in the majority of corn hybrids, its presence made genetically similar hybrids vulnerable.

In the past, farmers as a group often grew many different varieties of a crop in a given geographic area. Today, farmers often grow similar varieties in a given region, but the characteristics of the planted crops change more rapidly over time. Breeders have succeeded in overcoming and mitigating outbreaks of disease or other pests by using the genetic diversity held in gene pools to create new varieties as resistance develops. This kind of genetic diversity (temporal diversity) is found in the succession of varieties that are used across time (e.g., growing seasons) rather than within a given space (spatial diversity).

### **Storing Germplasm To Protect Biodiversity**

In the U.S., most agricultural genetic resources are preserved *ex situ*, by removing genetic material from its normal environment for long-term conservation. Botanical gardens, zoos, and gene banks are examples of *ex situ* biological conservation strategies. Gene banks hold large stores of germplasm, with more than 6 million accessions—or unique samples of crop varieties—at sites around the world. Nevertheless, samples of only a small fraction of the world's plant genetic resources have been collected thus far.

*Ex situ* conservation includes collection of samples, storage of seeds under controlled conditions, and periodic regeneration (planting and growing the seed to maturity) in order to maintain seed viability. Some plant varieties lose their varietal identity when propagated as seed, so they may need to be kept as living plants, a more costly process that requires additional land and labor.

Germplasm is held by public institutions, private companies, and individuals. In the U.S., the National Plant Germplasm System (NPGS), administered by USDA's Agricultural Research Service, is the primary public-sector institution involved in the effort to secure and utilize germplasm. The NPGS—which collects, develops, and distributes genetic materials—includes centralized facilities as well as a number of collections throughout the country.

Long-term seed storage is the function of the National Seed Storage Laboratory, a high-security NPGS facility that maintains the base collection and backup seed samples for germplasm found in other NPGS facilities. The NPGS maintains close ties with the State Agricultural Experiment Stations, and many of the NPGS facilities are located on or near Land Grant Universities, which facilitates research use of NPGS germplasm. The National Clonal Germplasm Repositories keep germplasm of vegetatively propagated crops.

The NPGS includes collections for more than 85 crop commodities. For each crop, the NPGS seeks both breadth and depth by collecting three types of germplasm: modern, landraces, and wild and weedy relatives. Curators and breeders want all three types of germplasm in a collection. Landraces and wild and weedy relatives often have unique resistance or quality traits, though they can be difficult to incorporate into a modern, high-yielding variety, while modern material may be less exotic but is generally easier to use. The NPGS collections also contain genetic stocks—i.e., mutations, variations, and oddities that are used in genetic research and sometimes in plant breeding.

Germplasm management includes collection, preservation, characterization and evaluation, and enhancement. *Collection* involves gathering germplasm from the field, the wild, or from other gene banks. *Preserving* germplasm includes general maintenance of germplasm and the use and development of technology to improve the preservation process. *Characterization* includes cataloging and studying the general make-up of the species. *Evaluation* involves examining germplasm for traits that are affected by

the environment, such as temperature tolerance or pest resistance, and for traits that are relatively independent of the environment, such as size or taste.

*Enhancement* involves using germplasm to create superior crops through breeding.

Genebank managers, together with breeders, allocate resources among these five activities. Each activity has benefits, as well as costs. For example, collecting germplasm allows samples to be used in the future, so that the option to use potentially scarce genetic resources could remain open if the samples are sufficiently well-preserved. Evaluation activities provide breeders with needed information about traits. Accurate characterization and evaluation data directs breeders' efforts in their search for traits in germplasm. Enhancement activities are needed for germplasm to translate into benefits related to agricultural production.

The NPGS is one of the world's largest collectors and distributors of germplasm. The germplasm management and enhancement system has yielded considerable economic benefits for U.S. and world agriculture by contributing to increased productivity and greater production.

Most economic studies have focused on benefits embodied in returns to the final products of the germplasm enhancement process—i.e., new crop varieties. Because these benefits arise from a combination of activities, economists have started to examine the components leading to germplasm enhancement. For example, new economic methods have assessed the optimal size of germplasm collections. Other work has estimated the optimal numbers of accessions scientists need to search in order to locate given characteristics. Thus far, economic studies generally find that the benefits associated with additional genebank accessions far outweigh their collection, preservation, and search costs, even in large collections that are not used frequently.

However, it takes time to realize some of these benefits, which helps explain why private-sector germplasm managers have different goals than public-sector managers. Private-sector germplasm collections are focused on activities that enable



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their breeders to produce successful new varieties.

In the early days of modern plant breeding, private companies did little plant breeding. Instead, they generally commercialized seed varieties created by public-sector breeders. The development of hybrid varieties spurred private companies' interest in varietal development because hybridization offered a natural form of intellectual property protection. Hybrid seed loses considerable genetic purity and yield potential when replanted. Legal mechanisms for protecting varieties and biological inventions have provided further incentives for private breeding activity.

Currently, private-sector breeders outnumber public-sector breeders, and private seed companies now have substantial collections of germplasm. Privately funded germplasm banks place a high priority on germplasm enhancement, in contrast to publicly funded organizations whose goals are more diverse. Private collections generally focus on breeders' working collections of elite germplasm used in the breeding process. Private incentives to collect and maintain a collection for long-term use are small, because economic returns may not be realized until far into the future.

Many forms of germplasm have limited appropriability—i.e., they cannot be protected from use by others because they can be easily reproduced for breeding purposes—and therefore they have little commercial value. The NPGS focuses on germplasm that may be needed by both public and private breeders well into the future. The NPGS has amassed a significant collection of exotic germplasm that, while sometimes difficult and time-consuming to use, can be a crucial source of traits, particularly resistance traits. The NPGS also retains accessions for national security purposes, so that the U.S. has an adequate supply of breeding material, regardless of global political developments.

These accomplishments notwithstanding, the present gene bank system is not without limitations. Gene banks hold relatively few wild relatives of today's domesticated varieties. And many gene banks

may not be receiving adequate funding to fulfill their mission. According to a report by the General Accounting Office, the NPGS lacks sufficient funding to complete evaluation and documentation and to perform necessary backups and regeneration of seed accessions.

### ***Biotechnology and Demand For Genetic Resources***

The advent of biotechnology, specifically genetic engineering, has launched speculation about the effects of the new techniques on the demand for genetic resources. One goal of genetic engineering is to simplify the process of incorporating desired traits into new varieties, making it easier to use the beneficial characteristics of landraces and wild relatives of agricultural crops. Genetic engineering also can be used to incorporate traits from disparate species. For example, one line of research explores preventing frost damage in plants by utilizing flounder genes.

On the frontier of biotechnology research are efforts to increase breeders' access to genetic material in a plant. Within their DNA, organisms may carry genetic materials that are not actively expressed as traits, although those genes may be of interest to crop breeders. In the future, scientists may be able to determine how these unexpressed genes operate, and to make use of them in the breeding of new varieties.

Thus far, however, it appears that biotechnology has not significantly changed the process of plant breeding. To date, most genetically engineered varieties have incorporated one or two specific traits, such as insect resistance from the *Bacillus thuringiensis* (Bt) gene or herbicide tolerance. An important benefit from biotechnology is the increased speed with which breeders can develop new varieties. New technologies can be used by breeders to better understand the composition of germplasm used in breeding, whether genetically engineered or conventionally bred. And various molecular biology techniques offer a means of incorporating exotic and diverse germplasm.

Biotechnology can improve breeders' ability to find, select, and incorporate resistance, yield, and quality traits from genetic material that would be difficult or impossible to use with purely conventional techniques. But even the most sophisticated techniques cannot manufacture genetic material; they can only increase the efficiency with which breeders use germplasm from conventional sources. Therefore, the general expectation is that use of biotechnology will likely increase the demand for germplasm, at least in the foreseeable future.

### ***Genetic Resources to Meet Diverse Goals***

The agricultural sector faces increased expectations regarding the quality and quantity of food supplies, as rising world populations—mostly in relatively poor areas—and increasing incomes raise demand for agricultural products. Farmers must be economically efficient to remain in business, especially when commodity prices weaken or costs rise. At the same time, some natural predators of agricultural pests are in decline, and there is demand for enhanced environmental amenities—especially decreased use of toxic agricultural chemicals—as well as limitations to agricultural land expansion. Continuing improvements through plant breeding—especially adding traits that enhance yields and add resistance to disease or other pests—can help meet these challenges.

Uncertainty about specific resources that plant breeders will need for improving future agricultural production motivates genetic resource managers—especially in the public sector—to collect and accumulate a broad range of germplasm. Even though some conserved crop genetic resources may be used rarely today, it is likely the option to use them will be exercised in the future based on known probabilities of their use in combating diseases and other pests. The quest to increase agricultural production while preserving natural resources may further farmers' reliance on new crop varieties over time. Both factors suggest that breeders' demand for diverse agricultural resources may increase.

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Economic research is underway to help genebank managers and breeders direct and distribute their resources. In cooperation with other institutions, USDA's Economic Research Service is working to analyze and quantify demand from both public and private users for biodiversity stored in public crop germplasm collections. Other research explores returns to various germplasm activities and alternatives for collecting diverse types of germplasm. Economic information can help managers make decisions about the allocation of effort among acquisition, assessment, maintenance and enhancement activities related to genetic material, so that genebank managers can get the highest benefit from their resources.

Genetic resources are critical inputs for the agricultural production system. Without continued genetic enhancement that relies on diverse germplasm from wild and improved sources, impressive gains in agricultural yields would soon prove unsustainable. Given the limited incentives for private firms to hold sufficient levels of all types of germplasm, a strong set of publicly held genetic resources is a major asset in meeting society's goals. **AO**

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### Upcoming Reports—USDA's Economic Research Service

The following reports are issued electronically at 3 p.m. (ET) unless otherwise indicated.

#### November

- 9 *World Agricultural Supply and Demand Estimates* (8:30 a.m.)
- 13 *Oil Crops Outlook* (4 p.m.)\*\*
- 14 *Feed Outlook* (9 a.m.)\*\*
- 14 *Wheat Outlook* (9 a.m.)\*\*
- 20 *Agricultural Outlook\**
- 28 *Livestock, Dairy, & Poultry* (4 p.m.)\*\*
- 29 *Rice Yearbook*
- 29 *U.S. Agricultural Trade Update\*\**

\* Release of summary, 3 p.m.

\*\* Available electronically only

## In the months ahead . . .

- Update on negotiations for European Union enlargement
- Options for agricultural policy reform in WTO talks
- Outlook for the U.S. cotton sector
- Farm labor issues

## Watch for these in *Agricultural Outlook*

## Special Article

## Five Years of Tariff-Rate Quotas— A Status Report

When the next round of World Trade Organization (WTO) agricultural trade negotiations gets under way in earnest next year in Geneva, the issue of tariff-rate quotas, or TRQ's, will likely emerge in headlines and discussions. There are now over 1,300 TRQ's applied to agricultural products, and many limit trade on key or politically sensitive commodities.

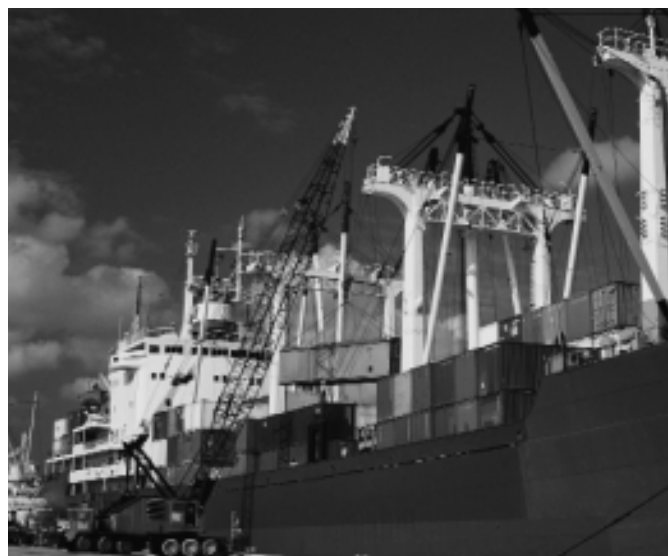
Liberalizing TRQ's worldwide can mean big opportunities for exporters and consumers, but it can also mean big adjustments for producers who benefit from TRQ protection. With the stakes high on both sides, there is considerable potential for serious disagreement.

### *What Are Tariff-Rate Quotas?*

A TRQ is, simply, a two-tiered tariff. A limited volume—the “quota”—can be imported at the lower tariff, and imports in excess of the quota volume are charged the higher tariff.

TRQ's have existed for a long time, but their use has never been as widespread or important as standard import quotas and tariffs. The first one reportedly was a Belgian TRQ placed on cast iron from Luxembourg in 1839. TRQ's were briefly popular in Europe at the start of the global depression of the 1930's, but the severity of the crisis caused most TRQ's to be converted to simple quotas limiting the volume of permissible imports. By 1937, Switzerland was the only nation employing TRQ's on a wide scale, and after World War II, these TRQ's were abandoned for other trade barriers. In 1995, after more than 150 years of obscurity, over 1,300 TRQ's suddenly appeared, all for agricultural products (see sidebar). What brought this about?

One of the achievements of the last round of multilateral trade negotiations—the Uruguay Round in 1986-94, which created the World Trade Organization (WTO)—was the Agreement on Agriculture. While agriculture had been included in each of the previous rounds, it was not until the Uruguay Round that real progress was made in bringing new international discipline to trade and domestic policies related to agriculture and negotiating overall reductions in barriers to agricultural trade. Among its rules and disciplines, the Agreement on Agriculture includes a provision requiring the abolition of all “quantitative restrictions”—bans and quotas—on agricultural imports. But the provision allows members to convert existing quotas and bans into TRQ's. While this might seem contradictory, a TRQ, from a legal point of view, is not considered a quantitative restriction because it does not limit the quantity that may be imported. One may always import more by paying the higher, over-quota tariff. However, if a country sets the over-quota tariff high enough to



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deter importers from purchasing beyond the in-quota volume, a TRQ has the effect of a quota.

At first glance, replacing quantitative restrictions with TRQ's does not appear to be a major accomplishment. But the Agreement on Agriculture includes a requirement that countries allow “minimum market access” for importation of commodities previously limited by quantitative restrictions as well as TRQ's to maintain access levels above the minimum market access levels. The general rule for “minimum market access” levels is that countries must provide the opportunity to import at the low-tariff rate a quantity equal to 3 percent of their domestic consumption of the commodity during 1986-88—the “base period” for the Agreement on Agriculture. These “minimum access TRQ's” became effective in 1995 and were increased by equal steps to reach 5 percent of base-period consumption in 2000.

TRQ's replacing quotas already set higher than minimum access quantities were not required to increase over time. For example, the U.S. imports far more than 5 percent of its 1986-88 domestic consumption of sugar; thus the in-quota volume of the U.S. sugar TRQ was not required to increase. The U.S. quota for peanuts, however, restricted imports to less than the minimum access quantity, so the peanut TRQ has expanded each year and now stands at 5 percent of 1986-88 consumption.

The provision that allowed TRQ's to replace former quantitative restrictions was critical to bringing the Uruguay Round to a successful conclusion. It allowed the transformation of quotas and other measures to be addressed for the first time, by providing incremental reform and increased market access. There was general recognition that the TRQ's would need to be addressed

**Tariff Rates for Tariff-Rate Quotas Vary by Country**

	Average tariff		Percent	Tariff on butter	
	Within-quota	Over-quota		Within-quota	Over-quota
South Korea	21	366		40	99
Japan	20	274		35	502
Canada	8	203		12	299
European Union	8	45		55	146
U.S.	10	29		8	96

Source: Agricultural Market Access Database (2000) (<http://www.amad.org/>).

Economic Research Service, USDA

again in future multilateral agricultural trade negotiations. New negotiations are here, and member countries are proposing ways to resolve many of these issues.

### **TRQ Negotiation Issues: Liberalization & Administration**

Two kinds of TRQ issues must be addressed: TRQ liberalization and TRQ administration. **Liberalization** concerns changing the tariff and quota components of existing TRQ's. TRQ **administration** relates to how the importing country allocates the right to import at the in-quota, or lower, tariff rate. Proposals are under consideration to reduce in-quota and over-quota tariffs and to expand in-quota volumes. Questions about liberalization are likely to revolve around how and how much to reduce tariffs or increase TRQ access; whether certain types of TRQ's require special attention; and whether minimum-access TRQ's should be expanded.

Reducing certain prohibitive over-quota tariffs has the greatest potential for liberalizing trade. For example, over-quota tariffs for butter, a highly protected commodity, are often in the triple digits, compared with the average 3.9 percent tariff levied by developed countries on manufactured goods. Aggressive reduction of over-quota tariffs would allow over-quota imports to become economically viable.

Over-quota imports are not subject to in-quota administration rules, and thus are not limited to selected suppliers or restricted to narrow product specifications or end-uses. They provide greater market access and exert economic pressure for more transparent administration of in-quota imports and for adjustment in domestic markets as competing products are imported.

TRQ administration is likely to be an equally difficult issue. The General Agreement on Tariffs and Trade (GATT)—the international agreement that was incorporated into the WTO—has governed the administration of quantitative restrictions since 1947. Although these rules, still in effect, were drafted with quotas in mind, they also apply to TRQ's. The administration of over 1,300 new TRQ's since 1995 has resulted in widely varying interpretation of the rules, and this large gray area has led to a wide variety of disputes, some discussed below. Many WTO members are now proposing clarifications of existing rules or adoption of new disciplines.

TRQ administration is, basically, rationing. If demand for imports exceeds the volume allowed at the in-quota tariff, then the right to import at this level can be worth a great deal of money. A trader bringing in product under the first tier (in-quota rate) can buy at the world price, pay the low tariff, then sell at the higher—often much higher—domestic price. Opportunities for a guaranteed profit tend to attract more applicants (traders) than opportunities, so some method of allocating among applicants is required.

The World Trade Organization identifies seven principal methods of TRQ administration. Member nations must notify WTO about how they administer the TRQ's in their tariff schedules. In 1999 almost half the TRQ's notified were not enforced. Rather, all imports were allowed at the in-quota tariff—the applied tariff

### **TRQ's Are Concentrated in a Small Set of Countries & Commodities**

At the end of 1999, 37 of the 137 WTO members had notified a total of 1,368 TRQ's to the WTO Secretariat. Three countries account for one-third of all TRQ's: Norway, Poland, and Iceland together have 431. TRQ's are also more often employed by developed industrialized countries than developing countries. Countries that have entered regional trade agreements often use TRQ's to "grandfather" a share of a market for a traditional supplier.

Country	No. of TRQ's	Commodity	No. of TRQ's
Norway	232	Fruit & vegetables	354
Poland	109	Meat	245
Iceland	90	Cereals	217
EU	87	Dairy	181
Bulgaria	73	Oilseeds	124
Hungary	70	Coffee, tea, etc.	56
Colombia	67	Sugar	51
S. Korea	64	Beverages	35
Venezuela	61	Eggs	21
U.S.	54	Fibers	18
		Tobacco	13
Other	461	Other	53
Total	1,368	Total	1,368

TRQ'S notified to WTO for 1999. A TRQ (tariff-rate quota) is a two-tiered tariff. A limited volume (the "quota") can be imported at the lower tariff, and imports in excess of the quota volume are charged the higher tariff.

Source: World Trade Organization (2000).



## Special Article

Method of TRQ administration	Explanation	Share of all 1999 TRQ's
Applied tariff	Unlimited imports are allowed at or below the in-quota tariff rate; that is, the quota is not enforced.	47%
License on demand	Licenses are required in order to import at the in-quota tariff. If demand for licenses is less than the quota, the system operates on a first-come, first-served basis. If demand exceeds quota, the import volume requested is reduced proportionately among all applicants (traders).	25%
First-come, first-served	Imports are charged the in-quota tariff until the quota is filled; all subsequent imports are charged the over-quota tariff.	11%
Historical	The right to import in-quota tariff is allocated in proportion to import market shares in a base period.	5%
Auction	The right to import at the in-quota tariff is auctioned.	4%
State trader or producer group	The right to import in-quota is granted wholly or primarily to a state trading organization or an organization representing domestic producers of the controlled product.	2%
Mixed	Two or more of the methods above are combined.	4%
Other or not specified	The methods used do not correspond to the methods above nor are they specified in WTO notifications.	2%

Source: World Trade Organization.

method. The over-quota tariff may be re-applied at will, however. Of the TRQ's enforced, license on demand and first-come, first-served are the two most common means of allocating access at the in-quota tariff. Less common methods are auctioning and allocations based on market shares in some earlier period—the 'historical' method. Different allocation methods may lead to the same volume of in-quota imports but very different exporter market shares. Trade disputes can emerge over how the in-quota pie is sliced.

The common-sense notion of mandating minimum market access is that domestic consumers would then have at least a limited opportunity to choose between domestic products and imported products. Such competition would expand consumer choice, reduce domestic prices, however slightly, as supplies expand, and perhaps cause the domestic industry to begin to adjust to international market forces. This is a generous and broad interpretation of market access—the spirit of the law. But countries “forced” to open their markets can minimize the impact of imports while meeting the letter of the law, and many have been very creative in this endeavor.

### *Insulating Domestic Markets & Biasing Trade Flows*

The minimum access provisions under the Agreement on Agriculture were anticipated to have their greatest impact in markets that had been insulated from international trade, but this has not happened in several cases. For example, prior to 1995, Japan had maintained a complete ban on rice imports; the Agreement on Agriculture requires that it allow minimum market access (in-quota amounts) to rice exporters. Though Japan has followed the letter of the law and imported the required minimum amounts, Japanese consumers have eaten very few kernels

of foreign rice. A large proportion of the imported rice remains in storage and is not available to domestic buyers; most of the remainder is channeled to processors for production of rice wine and rice cakes. Very little imported japonica rice, such as that produced in California, can be found on supermarket shelves in direct competition with domestic Japanese rice (*AO* April 1999).

In South Korea, the rice TRQ is limited to brown rice. The TRQ is filled by accepting the lowest priced tenders, with little regard to quality. The imported brown rice is then strictly channeled to processors because the government imposes substantial fines for diverting rice into higher valued end uses. Hungary employs the same technique with its beef TRQ—all in-quota beef imports are restricted to processing use. In each case, the government denies the domestic consumer direct access to the imported products.

To minimize the impact on the domestic market, Japan and South Korea directly control the processes through which rice imports are procured. However, there are other means of managing in-quota imports that can bias, intentionally or inadvertently, the market shares of competing suppliers.

For example, Poland in 1999, issued permits to traders for importing within its wheat TRQ; the maximum quantity allowed per permit was 5,000 tons. In early 2000, this maximum was reduced to 1,500 tons and its validity limited to 1 month from the date of issue. The small permit quantity and short delivery window favored rail shipments from the EU and neighboring Central Europe, and effectively prohibited imports by ship from Argentina, Australia, Canada, or the U.S. In part because of a poor harvest this summer, the permit volume has recently been increased to 25,000 tons and the delivery window raised to 2 months.

Additional regulations can also bias the kind of product that can be imported in-quota. In 1997, the U.S. initiated a complaint against Canada's fluid milk TRQ. Canada officially allows the annual import of 64,500 tons of fluid milk at the in-quota rate of 7.53 percent; over-quota imports face a 241.3-percent tariff. Canada's tariff schedule notes that "This quantity represents the estimated annual cross-border purchases imported by Canadian consumers." Canada administers the TRQ by *not* administering it: It allows individual Canadian residents to enter Canada with fluid milk for their personal use as long as no more than Can\$20 of fluid milk enters in a single shopping trip. There are no permits or licenses, the in-quota tariff is not charged, and no record is kept of the volume of fluid milk imports.

The U.S. complaint to the WTO argued that restricting imports to less than Can\$20 per shipment discriminates against, and in effect prohibits, commercial shipments of fluid milk. The WTO dispute panel determined that Canada's \$20 limitation is inconsistent with Canada's WTO minimum access commitments. However, it also determined that Canada is not obliged to allow bulk shipments of fluid milk to satisfy the in-quota volume of the TRQ. So, Canada can still restrict in-quota imports to fluid milk for personal use, but it can no longer limit them to less than \$20 Canadian per entry.

The domestic purchase requirement is another questionable TRQ licensing provision that unnecessarily inhibits imports. Under such a provision, an importer must purchase a certain amount of domestically produced product in order to import a specified amount of the product. For example, Venezuela requires evidence of domestic purchase before it will issue a license for in-quota dairy product imports; Switzerland has domestic purchase requirements for some dairy products, shell eggs, seed potatoes, cut flowers, and various types of fresh fruit and live animals; and Colombia has 33 TRQ's with domestic purchase requirements, primarily for grains and oilseeds and their processed by-products.

### ***What Can Be Done About TRQ's?***

Because most existing TRQ's were first imposed in 1995, the implementation period for the Agreement on Agriculture (1995–2000) can be viewed as a trial period for TRQ's. Trade negotiators are returning to the table with over 5 years of experience in administering their own TRQ's and/or contending with those of their trading partners. Many of the problems, such of those discussed in this article, are widely recognized, and preliminary negotiation proposals indicate a general interest in addressing them.

Negotiations can create new policies or strengthen existing disciplines for liberalization and administration. New policies on liberalization and administration may prove difficult to introduce, but much can be accomplished by enforcing or clarifying existing ones. Observers will likely witness some of both in the upcoming WTO agricultural negotiations. **AO**

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### **Related Reading**

WTO Briefing Room on the Economic Research Service Web site.  
<<http://www.ers.usda.gov/briefing/wto/>>.

"China's WTO Accession Would Boost U.S. Ag Exports & Farm Income," *AO* March 2000 (includes discussion of China's TRQ's and state trading).

<<http://www.ers.usda.gov/epubs/pdf/agout/mar2000/ao269e.pdf>>

*Agriculture in the New WTO Round: Options for Policy Reform*, Economic Research Service. (forthcoming)

*The Economics of TRQ Administration*, Technical Bulletin, Economic Research Service. (forthcoming)

World Trade Organization, "Tariff Quota Administration Methods and Tariff Quota Fill: Background Paper by the Secretariat." 26 May 2000. G/AG/NG/S/8

<http://www.wto.org/ddf/ep/E2/E2153e.doc>

# Statistical Indicators

## Summary Data

**Table 1—Key Statistical Indicators of the Food & Fiber Sector**

				1999		2000			2001	
	1998	1999	2000	IV	I	II	III	IV	I	II
Prices received by farmers (1990-92=100)	101	96	--	92	92	101	--	--	--	--
Livestock & products	97	95	--	96	95	100	--	--	--	--
Crops	106	96	--	88	90	102	--	--	--	--
Prices paid by farmers (1990-92=100)										
Production items	113	112	--	113	115	116	--	--	--	--
Commodities and services, interest, taxes, and wage rates (PPITW)	115	115	--	116	119	120	--	--	--	--
Cash receipts (\$ bil.)	197	189	194	59	46	44	47	57	--	--
Livestock	94	95	100	24	25	25	25	25	--	--
Crops	102	93	94	34	21	19	22	32	--	--
Market basket (1982-84=100)										
Retail cost	163	167	--	169	169	169	--	--	--	--
Farm value	103	98	--	97	95	96	--	--	--	--
Spread	195	205	--	207	209	209	--	--	--	--
Farm value/retail cost (%)	22	21	--	20	20	20	--	--	--	--
Retail prices (1982-84=100)										
All food	161	164	168	165	166	167	169	169	170	170
At home	161	164	168	165	166	167	169	169	170	170
Away from home	161	165	169	167	168	168	170	171	172	172
Agricultural exports (\$ bil.) <sup>1</sup>	53.6	49.1	50.5	51.5	13.6	13.3	12.0	11.9	13.3	13.5
Agricultural imports (\$ bil.) <sup>1</sup>	37.0	37.5	39.0	39.5	9.6	10.1	10.2	9.3	9.0	9.9
Commercial production										
Red meat (mil. lb.)	45,134	46,134	46,120	11,756	11,595	11,279	11,613	11,633	11,386	11,179
Poultry (mil. lb.)	33,667	35,590	36,560	8,894	9,019	9,286	9,090	9,165	9,265	9,570
Eggs (mil. doz.)	6,658	6,912	7,052	1,786	1,754	1,743	1,750	1,805	1,775	1,765
Milk (bil. lb.)	157.3	162.7	168.2	40.4	42.6	43.2	41.2	41.3	42.9	43.6
Consumption, per capita										
Red meat and poultry (lb.)	213.5	220.3	220.7	55.9	53.9	54.9	55.5	56.5	54.4	54.8
Corn beginning stocks (mil. bu.) <sup>2</sup>	883.2	1,307.8	1,787.0	3,616.2	1,787.0	8,024.7	5,602.0	3,585.9	--	--
Corn use (mil. bu.) <sup>2</sup>	8,791.0	9,298.3	9,524.1	1,831.1	3,203.2	2,426.1	2,021.5	1,873.3	--	--
Prices <sup>3</sup>										
Choice steers--Neb. Direct (\$/cwt)	61.48	65.56	68.84	69.65	69.32	71.59	65.43	68-70	68-72	71-77
Barrows and gilts--IA, So. MN (\$/cwt)	34.72	34.00	44.51	36.29	41.14	50.43	46.47	39-41	41-45	43-47
Broilers--12-city (cents/lb.)	63.10	58.10	55.50	57.60	54.60	55.70	56.80	54-56	51-55	52-56
Eggs--NY gr. A large (cents/doz.)	75.80	65.60	65.40	63.20	63.30	62.10	67.10	68-70	61-65	58-62
Milk--all at plant (\$/cwt)	15.42	14.36	12.80-13.20	13.83	11.90	12.03	12.73	12.80-13.20	11.45-12.15	10.70-11.70
Wheat--KC HRW ordinary (\$/bu.)	3.27	2.92	--	2.83	2.92	2.95	--	--	--	--
Corn--Chicago (\$/bu.)	2.41	2.01	--	1.91	2.12	2.16	--	--	--	--
Soybeans--Chicago (\$/bu.)	6.01	4.61	--	4.53	4.95	5.20	4.60	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	67.02	52.31	--	48.08	54.63	55.68	58.36	--	--	--
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Farm real estate values <sup>4</sup>										
Nominal (\$ per acre)	703	713	740	798	844	887	926	974	1,020	1,050
Real (1982 \$)	521	507	514	540	558	572	586	606	627	636
U.S. civilian employment (mil.) <sup>5</sup>	126.3	128.1	129.2	131.1	132.3	133.9	136.3	137.7	--	--
Food and fiber (mil.)	23.5	23.1	23.6	24.3	24.7	24.5	24.6	24.8	--	--
Farm sector (mil.)	2.0	1.9	1.8	1.9	2.0	2.0	1.9	1.8	--	--
U.S. gross domestic product (\$ bil.)	5,986.2	6,318.9	6,642.3	7,054.3	7,400.5	7,813.2	8,300.8	8,759.9	--	--
Food and fiber--net value added (\$ bil.)	881.8	924.8	971.4	1,077.1	1,140.8	1,216.5	1,323.3	1,367.2	--	--
Farm sector--net value added (\$ bil.) <sup>6</sup>	71.1	75.5	73.1	78.3	75.3	86.7	84.5	74.3	--	--

-- = Not available. Annual and quarterly data for the most recent year contain forecasts. 1. Annual data based on Oct.-Sept. fiscal years ending with year indicated. 2. Sept.-Nov. first quarter; Dec.-Feb. second quarter; Mar.-May third quarter; Jun.-Aug. fourth quarter; Sept.-Aug. annual. Use includes exports and domestic disappearance. 3. Simple averages, Jan.-Dec. 4. As of January 1. 5. Civilian labor force taken from "Monthly Labor Review," Table 18--Annual Data: Employment Status of the Population, Bureau of Labor Statistics, U.S. Department of Labor. 6. The value-added data presented here is consistent with accounting conventions of the National Income and Product Accounts, U.S. Department of Commerce.

## U.S. & Foreign Economic Data

**Table 2—U.S. Gross Domestic Product & Related Data**

				1998		1999				2000	
	1997	1998	1999	IV	I	II	III	IV	I	II	
Billions of current dollars (quarterly data seasonally adjusted at annual rates)											
Gross Domestic Product	8,318.4	8,790.2	9,299.2	8,974.9	9,104.5	9,191.5	9,340.9	9,559.7	9,752.7	9,945.7	
Gross National Product	8,305.0	8,750.0	9,236.2	8,966.6	9,097.2	9,181.8	9,327.3	9,546.3	9,745.0	9,937.4	
Personal consumption expenditures	5,529.3	5,850.9	6,268.7	5,986.0	6,095.3	6,213.2	6,319.9	6,446.2	6,621.7	6,706.3	
Durable goods	642.5	693.9	761.3	723.4	733.9	756.3	767.2	787.6	826.3	814.3	
Nondurable goods	1,641.6	1,707.6	1,845.5	1,745.2	1,786.4	1,825.3	1,860.0	1,910.2	1,963.9	1,997.6	
Food	812.2	845.8	897.8	867.2	878.1	886.6	900.4	926.1	938.4	948.3	
Clothing and shoes	271.7	286.4	307.0	291.7	301.1	306.1	308.7	311.9	323.1	325.6	
Services	3,245.2	3,449.3	3,661.9	3,517.4	3,575.0	3,631.5	3,692.7	3,748.5	3,831.6	3,894.4	
Gross private domestic investment	1,390.5	1,549.9	1,650.1	1,590.8	1,609.8	1,607.9	1,659.1	1,723.7	1,755.7	1,852.6	
Fixed investment	1,327.7	1,472.9	1,606.8	1,524.1	1,560.6	1,593.4	1,622.4	1,651.0	1,725.8	1,780.5	
Change in private inventories	62.9	77.0	43.3	66.6	49.2	14.5	36.7	72.7	29.9	72.0	
Net exports of goods and services	-89.3	-151.5	-254.0	-169.0	-196.1	-240.4	-280.5	-299.1	-335.2	-355.4	
Government consumption expenditures and gross investment	1,487.9	1,540.9	1,634.4	1,567.2	1,595.5	1,610.9	1,642.4	1,688.8	1,710.4	1,742.2	
Billions of 1996 dollars (quarterly data seasonally adjusted at annual rates) <sup>1</sup>											
Gross Domestic Product	8,159.5	8,515.7	8,875.8	8,654.5	8,730.0	8,783.2	8,905.8	9,084.1	9,191.8	9,318.9	
Gross National Product	8,168.1	8,515.1	8,868.3	8,649.3	8,726.0	8,776.7	8,895.4	9,075.0	9,187.7	9,313.7	
Personal consumption expenditures	5,423.9	5,678.7	5,978.8	5,779.8	5,860.2	5,940.2	6,013.8	6,101.0	6,213.5	6,260.6	
Durable goods	657.3	727.3	817.8	766.7	782.7	810.5	826.2	851.8	898.2	886.7	
Nondurable goods	1,619.9	1,684.8	1,779.4	1,716.0	1,748.5	1,765.0	1,786.1	1,818.1	1,844.8	1,861.1	
Food	794.5	812.8	845.9	827.0	832.7	838.0	846.7	866.0	872.2	876.5	
Clothing and shoes	271.6	292.2	318.5	298.7	313.3	316.5	322.1	322.1	337.7	342.3	
Services	3,147.0	3,269.4	3,390.8	3,302.8	3,335.8	3,373.4	3,411.1	3,443.0	3,487.2	3,526.7	
Gross private domestic investment	1,393.3	1,566.8	1,669.7	1,609.9	1,623.2	1,623.1	1,680.8	1,751.6	1,773.6	1,863.0	
Fixed investment	1,328.6	1,485.3	1,621.4	1,539.7	1,574.0	1,607.1	1,637.8	1,666.6	1,730.9	1,777.6	
Change in private inventories	63.8	80.2	45.3	69.4	48.1	13.1	39.1	80.9	36.6	78.6	
Net exports of goods and services	-113.3	-221.0	-322.4	-244.9	-279.8	-314.6	-342.6	-352.5	-376.8	-403.4	
Government consumption expenditures and gross investment	1,455.4	1,486.4	1,536.1	1,503.3	1,517.1	1,519.9	1,537.8	1,569.5	1,565.1	1,583.7	
GDP implicit price deflator (% change)	1.9	1.3	1.5	1.1	2.3	1.4	0.9	1.3	3.3	2.4	
Disposable personal income (\$ bil.)	5,968.2	6,320.0	6,637.7	6,441.1	6,514.9	6,596.3	6,664.0	6,775.0	6,866.5	6,964.9	
Disposable pers. income (1996 \$ bil.)	5,854.5	6,134.1	6,331.0	6,219.2	6,263.7	6,306.6	6,341.7	6,412.2	6,443.1	6,502.0	
Per capita disposable pers. income (\$)	22,262	23,359	24,314	23,720	23,946	24,196	24,384	24,728	25,014	25,322	
Per capita disp. pers. income (1996 \$)	21,838	22,672	23,191	22,903	23,022	23,133	23,203	23,404	23,472	23,639	
U.S. resident population plus Armed Forces overseas (mil.) <sup>2</sup>	268.0	270.5	272.9	271.5	272.0	272.5	273.2	273.9	274.4	275.0	
Civilian population (mil.) <sup>2</sup>	266.5	269.0	271.5	270.0	270.5	271.1	271.7	272.4	273.0	273.5	
Annual											
	1997	1998	1999	1999	2000						
				Aug	Mar	Apr	May	Jun	Jul	Aug	
Monthly data seasonally adjusted											
Total industrial production (1992=100)	130.1	136.4	142.3	142.5	148.4	149.3	150.3	151.0	151.2	151.3	
Leading economic indicators (1992=100)	103.9	105.5	105.2	105.5	106.1	106.1	106.0	106.0	105.8	105.7	
Civilian employment (mil. persons) <sup>3</sup>	129.6	131.5	133.5	133.5	135.2	135.7	134.7	135.2	134.7	134.9	
Civilian unemployment rate (%) <sup>3</sup>	4.9	4.5	4.2	4.2	4.1	3.9	4.1	4.0	4.0	4.1	
Personal income (\$ bil. annual rate)	6,937.0	7,391.0	7,789.6	7,841.1	8,161.6	8,209.3	8,237.6	8,279.5	8,303.8	8,338.0	
Money stock-M2 (daily avg.) (\$ bil.) <sup>4</sup>	4,041.9	4,396.8	4,655.4	4,570.2	4,729.2	4,770.8	4,768.8	4,783.8	4,797.9	4,826.9	
Three-month Treasury bill rate (%)	5.07	4.81	4.66	4.76	5.72	5.67	5.92	5.74	5.93	6.11	
AAA corporate bond yield (Moody's) (%)	7.26	6.53	7.04	7.40	7.68	7.64	7.99	7.67	7.65	7.55	
Total housing starts (1,000) <sup>5</sup>	1,474.0	1,616.9	1,666.5	1,657	1,630	1,652	1,591	1,571	1,526	1,531	
Business inventory/sales ratio <sup>6</sup>	1.38	1.39	1.35	1.33	1.31	1.32	1.32	1.32	1.33	--	
Sales of all retail stores (\$ bil.) <sup>7</sup>	2,610.6	2,745.6	2,994.9	253.5	268.4	267.1	267.4	268.4	270.6	270.9	
Nondurable goods stores (\$ bil.)	1,547.3	1,609.2	1,739.9	146.2	155.8	155.9	156.6	157.7	158.9	159.4	
Food stores (\$bil.)	423.7	435.4	458.3	38.1	39.6	40.2	40.1	40.4	40.4	40.4	
Apparel and accessory stores (\$ bil.)	119.6	127.0	135.1	11.4	11.8	11.7	11.8	11.7	11.7	11.9	
Eating and drinking places (\$ bil.)	254.1	266.4	285.4	23.9	25.4	25.4	25.3	25.4	25.7	25.6	

-- = Not available. 1. In October 1999, 1996 dollars replaced 1992 dollars. 2. Population estimates based on 1990 census. 3. Data beginning January 1994 are not directly comparable with data for earlier periods because of a major redesign of the household survey questionnaire. 4. Annual data as of December of year listed. 5. Private, including farm. 6. Manufacturing and trade. 7. Annual total. *Information contact: David Johnson (202) 694-5324*



**Table 3—World Economic Growth**

	Calendar year									
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
<i>Real GDP, annual percent change</i>										
<b>World</b>	1.8	1.4	3.0	2.7	3.5	3.4	1.8	2.7	4.2	3.6
less U.S.	1.4	1.0	2.6	2.7	3.5	3.0	0.9	2.2	3.8	3.6
<b>Developed economies</b>	1.7	0.8	2.7	2.2	3.1	3.0	2.0	2.6	3.8	3.1
less U.S.	1.1	0.0	2.1	2.0	2.9	2.3	0.9	1.8	3.0	2.8
United States	3.1	2.7	4.0	2.7	3.6	4.4	4.4	4.2	5.3	3.6
Canada	0.9	2.3	4.7	2.8	1.5	4.4	3.3	4.5	4.8	3.0
Japan	1.0	0.3	0.7	1.4	5.2	1.6	-2.5	0.3	1.9	1.9
Australia	2.3	3.7	5.2	3.8	4.1	4.0	5.3	4.7	4.4	3.3
European Union	1.1	-0.4	2.7	2.3	1.6	2.5	2.7	2.3	3.4	3.3
<b>Transition economies</b>	-10.2	-6.6	-8.9	-1.5	-1.0	1.1	-1.5	2.3	4.9	3.0
Eastern Europe	-0.6	1.0	2.9	5.7	4.2	2.4	1.8	2.1	4.1	4.2
Poland	2.6	3.8	5.2	7.0	6.1	6.9	4.8	4.0	5.0	5.1
Former Soviet Union	-13.8	-10.0	-14.8	-5.9	-4.5	0.2	-4.0	2.5	5.4	2.1
Russia	-14.5	-8.7	-12.6	-4.1	-3.5	0.8	-4.6	3.2	6.4	1.9
<b>Developing economies</b>	5.3	5.8	6.3	5.2	5.8	5.4	1.2	3.3	5.8	5.7
<b>Asia</b>	7.7	8.0	8.8	8.3	7.5	6.0	0.4	6.2	7.2	6.6
East Asia	9.4	9.2	9.7	8.8	7.8	7.0	2.0	7.5	8.1	7.0
China	14.2	13.5	12.6	10.5	9.6	8.8	7.8	7.1	8.3	8.5
Taiwan	7.5	7.0	7.1	6.4	6.1	6.7	4.6	5.4	6.5	5.9
Korea	5.4	5.5	8.2	8.9	6.7	5.0	-6.7	10.7	8.4	5.3
Southeast Asia	5.6	7.7	7.9	8.1	7.1	4.7	-6.1	3.5	5.5	5.6
Indonesia	7.2	7.3	7.5	8.2	7.8	4.7	-13.2	0.7	4.0	6.3
Malaysia	7.8	8.3	9.2	9.5	8.6	7.8	-7.4	5.6	8.6	6.1
Philippines	0.3	2.1	4.4	4.7	5.8	5.2	-0.5	3.2	4.0	4.2
Thailand	8.1	8.4	8.9	8.8	5.5	-0.4	-10.2	4.2	5.5	5.9
South Asia	5.7	4.5	7.1	6.9	7.0	4.9	5.3	5.6	6.4	6.5
India	5.4	5.0	8.1	7.4	7.7	5.7	5.6	6.2	7.0	7.0
Pakistan	7.8	1.9	3.9	5.1	4.7	-0.4	3.7	3.0	4.0	4.5
<b>Latin America</b>	3.4	4.3	5.3	1.3	3.6	5.1	1.9	0.0	4.1	4.6
Mexico	3.6	1.9	4.5	-6.2	5.1	6.8	4.8	3.7	6.4	5.0
Caribbean/Central	8.0	4.7	4.0	3.2	3.6	5.8	6.1	3.3	4.0	4.7
South America	3.3	4.9	5.6	3.1	3.3	4.8	1.2	-1.0	3.5	4.5
Argentina	11.9	5.9	5.8	-2.8	5.5	8.1	3.9	-3.1	1.8	4.0
Brazil	-0.5	4.9	5.9	4.2	2.8	3.2	0.1	0.8	4.2	4.6
Colombia	3.9	5.4	5.8	5.2	2.0	2.8	0.6	-4.5	3.3	4.8
Venezuela	6.1	0.3	-2.3	3.7	-0.5	6.5	-0.7	-7.3	2.6	3.1
<b>Middle East</b>	4.7	3.9	-0.2	3.7	4.3	4.7	2.2	-1.3	4.9	5.0
Israel	5.6	5.6	6.9	7.0	4.6	2.2	1.9	2.1	5.8	4.4
Saudi Arabia	2.8	-0.6	0.5	0.5	1.4	1.9	2.3	-1.1	3.5	3.0
Turkey	6.4	8.7	-5.2	7.8	7.0	7.5	2.8	-4.9	7.1	7.8
<b>Africa</b>	0.2	1.0	3.2	2.9	5.2	2.8	3.1	2.7	3.7	4.2
North Africa	2.0	0.5	3.9	1.5	6.5	2.6	5.6	3.8	4.3	4.7
Egypt	4.4	2.9	3.9	4.7	5.0	5.5	5.6	6.0	5.0	4.6
Sub-Saharan	-1.1	1.4	2.6	3.9	4.3	2.9	1.3	1.8	3.2	3.8
South Africa	-2.1	1.2	3.2	3.1	4.2	2.5	0.5	1.2	3.0	3.6
<i>Consumer Prices, annual percent change</i>										
Developed Economies	3.5	3.1	2.6	2.6	2.4	2.1	1.5	1.4	2.3	2.1
Transition Economies	788.9	634.4	274.1	133.5	42.4	27.3	21.8	43.8	18.3	12.5
Developing Economies	42.8	48.7	54.7	23.2	15.3	9.7	10.1	6.6	6.2	5.2
Asia	8.6	10.8	16.0	13.2	8.3	4.7	7.5	2.4	2.4	3.3
Latin America	150.3	194.6	200.3	36.0	21.6	13.4	10.2	9.3	8.9	7.0
Middle East	26.5	26.6	33.2	39.2	26.9	25.4	25.3	20.4	17.4	9.5
Africa	47.1	39.0	54.8	35.2	30.2	13.6	9.1	11.8	12.7	8.6

-- = Not available. The last 3 years are either estimates or forecasts. Sources: Oxford Economic Forecasting; International Financial Statistics, IMF.

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## Farm Prices

**Table 4—Indexes of Prices Received & Paid by Farmers, U.S. Average**

	Annual			1999	2000					
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
	1990-92=100									
Prices received										
All farm products	107	101	96	96	100	101	99	98	98	99
All crops	115	106	96	95	101	104	99	96	99	99
Food grains	128	103	91	88	86	86	84	78	81	82
Feed grains and hay	117	100	86	81	91	97	90	82	79	76
Cotton	112	107	85	76	76	78	77	81	85	81
Tobacco	104	104	103	101	90	--	--	--	97	105
Oil-bearing crops	131	107	83	83	89	92	88	81	79	84
Fruit and nuts, all	109	111	114	129	88	91	114	123	129	125
Commercial vegetables	118	121	108	104	140	135	117	118	127	157
Potatoes and dry beans	90	99	101	90	105	110	106	114	95	83
Livestock and products	98	97	95	98	100	99	100	100	97	99
Meat animals	92	79	83	84	99	98	97	96	92	91
Dairy products	102	119	110	120	91	92	93	97	96	99
Poultry and eggs	113	117	111	109	111	108	112	112	110	116
Prices paid										
Commodities and services,										
interest, taxes, and wage rates (PPITW)	118	115	115	115	119	120	120	120	119	118
Production items	119	113	112	112	116	116	116	116	115	114
Feed	125	110	100	97	102	105	104	100	95	92
Livestock and poultry	94	88	95	94	112	106	108	111	107	105
Seeds	119	122	121	121	124	124	124	124	124	124
Fertilizer	121	112	105	103	106	108	108	112	112	112
Agricultural chemicals	121	122	121	121	119	124	121	121	121	120
Fuels	106	84	93	111	125	124	132	130	132	132
Supplies and repairs	118	119	121	121	123	124	124	124	124	124
Autos and trucks	119	119	119	118	120	120	119	119	118	118
Farm machinery	128	132	136	137	138	139	139	139	139	139
Building material	118	118	120	120	122	122	121	121	121	121
Farm services	116	115	115	116	116	116	117	118	118	118
Rent	136	120	117	117	117	117	117	117	117	117
Interest payable per acre on farm real estate debt	105	104	106	106	110	110	110	110	110	110
Taxes payable per acre on farm real estate	115	119	120	120	123	123	123	123	123	123
Wage rates (seasonally adjusted)	123	129	135	131	140	140	140	136	136	136
Prod. items, interest, taxes & wage rates (PITW)	118	114	113	114	118	118	118	118	117	116
Ratio, prices received to prices paid (%)*	91	81	75	83	84	84	83	82	82	84
Prices received (1910-14=100)	678	643	607	612	638	644	632	623	623	629
Prices paid, etc. (parity index) (1910-14=100)	1,574	1,532	1,535	1,537	1,589	1,593	1,598	1,594	1,584	1,576
Parity ratio (1910-14=100) (%)*	43	38	36	40	40	40	40	39	39	40

-- = Not available. Values for the two most recent months are revised or preliminary. \*Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio uses the most recent prices paid index. Data for this table are taken from the publication *Agricultural Prices*, which is produced monthly by USDA's National Agricultural Statistics Service (NASS) and is available at <http://usda.mannlib.cornell.edu/reports/nassr/price/pap-bb/>. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540, or access the NASS Home Page at <http://www.usda.gov/nass>.

**Table 5—Prices Received by Farmers, U.S. Average**

	Annual <sup>1</sup>			1999			2000			
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
<b>Crops</b>										
All wheat (\$/bu.)	3.38	2.65	2.55	2.58	2.57	2.59	2.50	2.32	2.41	2.43
Rice, rough (\$/cwt)	9.70	8.89	6.00	6.88	5.86	5.56	5.59	5.47	5.60	5.66
Corn (\$/bu.)	2.43	1.94	1.90	1.75	2.03	2.10	1.91	1.64	1.53	1.55
Sorghum (\$/cwt)	3.95	2.97	2.95	2.82	3.24	3.38	3.32	2.81	2.73	2.69
All hay, baled (\$/ton)	100.00	84.60	77.00	76.60	80.70	89.40	82.50	80.20	80.50	82.70
Soybeans (\$/bu.)	6.47	4.93	4.75	4.57	5.00	5.19	4.92	4.53	4.45	4.54
Cotton, upland (¢/lb.)	65.20	60.20	44.90	46.20	46.00	47.30	46.40	49.10	51.30	49.00
Potatoes (\$/cwt)	5.62	5.56	5.84	5.09	6.29	6.62	6.47	7.12	5.77	4.95
Lettuce (\$/cwt) <sup>2</sup>	17.50	16.10	13.30	13.10	22.90	23.50	13.40	15.00	19.20	35.60
Tomatoes, fresh (\$/cwt) <sup>2</sup>	31.70	35.20	25.90	26.50	40.50	27.40	24.70	23.50	30.70	29.40
Onions (\$/cwt)	12.60	13.80	9.78	9.80	16.60	16.60	14.80	17.40	14.60	13.40
Beans, dry edible (\$/cwt)	19.30	19.00	17.60	18.10	16.60	17.00	15.70	15.10	13.90	14.50
Apples for fresh use (¢/lb.)	22.10	17.30	21.20	21.60	19.70	18.20	16.10	16.20	19.50	23.30
Pears for fresh use (\$/ton)	276.00	291.00	294.00	315.00	269.00	204.00	220.00	270.00	280.00	317.00
Oranges, all uses (\$/box) <sup>3</sup>	4.22	4.29	5.94	10.41	4.14	4.60	4.43	3.07	2.17	0.93
Grapefruit, all uses (\$/box) <sup>3</sup>	1.93	2.00	3.22	4.28	2.82	2.51	5.27	6.14	4.45	6.71
<b>Livestock</b>										
Cattle, all beef (\$/cwt)	63.10	59.60	63.40	63.80	71.30	69.40	68.50	67.50	65.50	65.70
Calves (\$/cwt)	78.90	78.80	87.70	90.90	111.00	107.00	104.00	106.00	106.00	104.00
Hogs, all (\$/cwt)	52.90	34.40	30.30	33.90	47.30	48.50	48.60	48.50	43.80	41.60
Lambs (\$/cwt)	90.30	72.30	74.50	75.30	82.60	96.40	89.70	87.00	83.60	--
All milk, sold to plants (\$/cwt)	13.36	15.46	14.38	15.70	11.90	12.00	12.20	12.70	12.60	12.90
Milk, manuf. grade (\$/cwt)	12.17	14.24	12.86	15.10	10.20	10.10	10.30	10.70	10.70	11.10
Broilers, live (¢/lb.)	37.70	39.30	37.10	35.90	36.50	37.00	37.00	37.50	35.00	39.00
Eggs, all (¢/doz.) <sup>4</sup>	70.30	66.80	62.70	58.40	65.50	52.00	62.90	57.20	68.10	60.30
Turkeys (¢/lb.)	39.90	38.00	40.80	44.30	39.80	40.40	41.60	41.90	42.90	44.50

-- = Not available. Values for the two most recent months are revised or preliminary. 1. Season-average price by crop year for crops. Calendar year average of monthly prices for livestock. 2. Excludes Hawaii. 3. Equivalent on-tree returns. 4. Average of all eggs sold by producers including hatching eggs and eggs sold at retail. Data for this table are taken from the publication *Agricultural Prices*, which is produced monthly by USDA's National Agricultural Statistics Service (NASS) and is available at <http://usda.mannlib.cornell.edu/reports/nassr/price/pap-bb/>. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540, or access the NASS Home Page at <http://www.usda.gov/nass>.

## Producer & Consumer Prices

**Table 6—Consumer Price Indexes for All Urban Consumers, U.S. Average (not seasonally adjusted)**

	Annual			1999			2000			
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
<i>1982-84=100</i>										
Consumer Price Index, all items	160.5	163.0	166.6	167.9	171.2	171.3	172.3	172.6	172.8	173.7
CPI, all items less food	161.1	163.6	167.0	168.5	172.0	172.1	173.2	173.5	173.5	174.6
All food	157.3	160.7	164.1	164.6	166.6	167.3	167.3	168.1	168.7	168.9
Food away from home	157.0	161.1	165.1	165.8	168.1	168.3	168.6	169.1	169.5	170.0
Food at home	158.1	161.1	164.2	164.5	166.5	167.5	167.3	168.3	168.9	169.0
Meats <sup>1</sup>	144.4	141.6	142.3	143.9	148.8	150.1	151.7	152.7	153.9	153.8
Beef and veal	136.8	136.5	139.2	140.3	147.0	148.0	149.4	149.5	150.4	150.2
Pork	155.9	148.5	145.9	149.7	153.5	155.5	157.5	159.9	162.1	161.4
Poultry	156.6	157.1	157.9	159.8	158.5	159.6	159.3	161.8	161.3	160.9
Fish and seafood	177.1	181.7	185.3	184.7	189.8	192.4	191.9	189.7	190.7	191.9
Eggs	140.0	135.4	128.1	128.2	129.5	124.1	125.9	125.5	130.5	132.0
Dairy and related products <sup>2</sup>	145.5	150.8	159.6	158.7	160.6	159.6	159.5	160.5	161.0	161.6
Fats and oils <sup>3</sup>	141.7	146.9	148.3	148.5	144.8	147.0	146.6	148.1	148.9	148.7
Fresh fruits	236.3	246.5	266.3	265.8	257.0	257.3	244.6	248.9	252.2	258.2
Fresh vegetables	194.6	215.8	209.3	208.0	213.6	219.1	217.7	216.7	217.3	218.9
Potatoes	174.2	185.2	193.1	204.6	194.9	200.4	201.7	208.3	210.7	195.4
Cereals and bakery products	177.6	181.1	185.0	185.2	187.2	188.6	187.7	189.6	189.9	188.6
Sugar and sweets	147.8	150.2	152.3	153.5	152.4	153.7	154.0	154.1	154.6	154.6
Nonalcoholic beverages <sup>4</sup>	133.4	133.0	134.3	134.2	137.6	137.3	137.5	138.5	138.2	138.0
Apparel										
Footwear	127.6	128.0	125.7	124.7	126.7	126.1	123.9	120.3	120.7	124.9
Tobacco and smoking products	243.7	274.8	355.8	373.8	404.4	393.5	388.5	400.7	394.1	408.0
Alcoholic beverages	162.8	165.7	169.7	170.7	173.6	173.8	174.4	175.2	175.6	175.5

1. Beef, veal, lamb, pork, and processed meat. 2. Included butter through December '97. 3. Includes butter as of January 98. 4. Includes fruit juices as of January 1998. This table is compiled with data provided by the Bureau of Labor Statistics (BLS). BLS operates a website at <http://stats.bls.gov/blshome.html> and a Consumer Prices Information Hotline at (202) 606-7828.



**Table 7—Producer Price Indexes, U.S. Average (not seasonally adjusted)**

	Annual			1999			2000			
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
<i>1982=100</i>										
All commodities	127.6	124.4	125.5	128.0	130.7	131.6	133.3	133.2	132.9	134.5
Finished goods <sup>1</sup>	131.8	130.6	133.0	134.7	136.7	137.3	138.4	138.3	138.1	139.2
All foods <sup>2</sup>	132.8	132.4	132.2	134.0	133.4	134.3	133.3	133.2	132.5	132.8
Consumer foods	134.5	134.3	135.1	136.7	137.3	138.2	137.3	137.4	136.9	137.1
Fresh fruits and melons	99.4	90.0	103.6	106.3	93.1	96.3	83.2	82.8	71.1	90.6
Fresh and dry vegetables	123.1	139.5	118.0	120.4	125.4	140.6	119.9	119.2	128.1	137.3
Dried and dehydrated fruits	124.9	124.4	121.2	119.7	122.6	122.6	122.6	122.6	122.6	122.6
Canned fruits and juices	137.6	134.4	137.8	138.1	139.9	140.5	140.4	139.9	139.8	140.0
Frozen fruits, juices and ades	117.2	116.1	123.0	120.4	123.2	123.0	122.9	121.8	120.7	118.1
Fresh veg. except potatoes	121.3	137.9	117.7	117.5	126.8	152.0	127.1	124.6	136.8	154.9
Canned vegetables and juices	120.1	121.5	120.9	120.7	120.9	121.2	120.8	121.2	120.5	120.7
Frozen vegetables	125.8	125.4	126.1	126.0	126.3	126.3	125.1	125.6	126.4	126.4
Potatoes	106.1	122.5	126.9	116.4	97.1	91.9	91.1	126.5	125.3	97.7
Eggs for fresh use (1991=100)	97.1	90.1	77.9	75.7	87.1	64.2	81.9	70.3	91.1	77.7
Bakery products	173.9	175.8	178.0	178.0	181.1	181.7	181.6	182.8	182.5	183.3
Meats	111.6	101.4	104.6	109.2	115.3	119.4	118.7	118.1	114.9	111.1
Beef and veal	102.8	99.5	106.3	110.2	114.4	118.9	117.6	114.6	111.9	109.4
Pork	123.1	96.6	96.0	104.7	116.0	121.1	120.5	123.1	116.9	109.1
Processed poultry	117.4	120.7	114.0	115.1	111.8	110.8	111.6	111.5	113.3	117.9
Unprocessed and packaged fish	178.1	183.0	190.9	193.6	211.2	204.1	195.0	196.2	200.9	189.7
Dairy products	128.1	138.1	139.2	142.9	132.3	132.6	134.4	136.3	134.9	135.6
Processed fruits and vegetables	126.4	125.8	128.1	127.8	129.0	129.2	128.5	128.4	127.9	127.6
Shortening and cooking oil	137.8	143.4	--	--	--	--	--	--	--	--
Soft drinks	133.2	134.8	137.9	138.7	144.4	144.9	145.0	144.8	144.8	144.0
Finished consumer goods less foods	128.2	126.4	130.5	133.5	136.0	136.9	139.2	139.0	139.0	140.8
Alcoholic beverages	135.1	135.2	136.7	136.8	137.3	141.4	137.6	138.2	137.6	141.4
Apparel	125.7	126.6	127.1	127.0	127.3	127.2	127.0	127.1	126.7	126.8
Footwear	143.7	144.7	144.5	144.6	144.9	145.0	145.0	144.9	145.1	145.1
Tobacco products	248.9	283.4	374.0	394.6	392.7	392.6	393.2	393.4	402.4	402.5
Intermediate materials <sup>3</sup>	125.6	123.0	123.2	125.3	128.0	128.3	129.7	130.1	129.9	131.0
Materials for food manufacturing	123.2	123.1	120.8	122.0	119.6	120.5	120.7	120.5	119.1	118.9
Flour	118.7	109.2	104.3	103.8	101.9	102.5	104.0	102.4	103.1	103.6
Refined sugar <sup>4</sup>	123.6	119.8	121.0	121.4	111.6	111.5	111.3	112.0	109.7	104.3
Crude vegetable oils	116.6	131.1	90.2	84.6	84.0	82.5	78.3	72.6	67.0	74.3
Crude materials <sup>5</sup>	111.1	96.7	98.2	107.3	111.3	115.9	121.9	120.8	119.2	124.8
Foodstuffs and feedstuffs	112.2	103.8	98.7	100.1	103.4	104.9	101.8	99.4	95.4	97.6
Fruits and vegetables and nuts <sup>6</sup>	115.5	117.2	117.4	120.5	111.4	119.3	103.4	102.9	99.6	114.6
Grains	111.2	93.4	80.1	75.9	82.6	85.8	78.6	71.0	66.8	70.2
Slaughter livestock	96.3	82.3	86.4	86.7	102.3	102.5	100.4	97.9	92.8	91.1
Slaughter poultry, live	131.0	141.4	129.9	132.6	121.0	123.0	124.2	126.5	119.6	133.6
Plant and animal fibers	117.0	110.4	86.5	80.0	86.2	94.5	90.8	86.9	96.7	99.3
Fluid milk	97.5	112.6	106.3	117.4	89.3	90.0	90.8	95.3	93.0	96.1
Oilseeds	140.8	114.4	90.8	90.0	98.0	102.3	97.0	90.9	87.4	92.8
Leaf tobacco	105.1	104.6	101.6	102.9	92.3	--	--	--	97.0	107.0
Raw cane sugar	116.8	117.2	113.7	109.9	102.5	102.0	105.1	97.0	94.7	99.8

-- = Not available. 1. Commodities ready for sale to ultimate consumer. 2. Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). 3. Commodities requiring further processing to become finished goods. 4. All types and sizes of refined sugar. 5. Products entering market for the first time that have not been manufactured at that point. 6. Fresh and dried.

This table is compiled with data provided by the Bureau of Labor Statistics (BLS). BLS operates a website at <http://stats.bls.gov/bls/home.html> and a Producer Prices Information Hotline at (202) 606-7705.

## Farm-Retail Price Spreads

**Table 8—Farm-Retail Price Spreads**

	Annual		1999		2000					
	1997	1998	1999	Aug	Mar	Apr	May	Jun	Jul	Aug
<b>Market basket<sup>1</sup></b>										
Retail cost (1982-84=100)	159.7	163.1	167.3	167.1	168.0	168.5	170.1	169.7	170.8	171.7
Farm value (1982-84=100)	106.2	103.3	98.3	98.7	94.6	96.6	95.8	95.9	96.0	97.1
Farm-retail spread (1982-84=100)	188.6	195.4	204.5	203.9	207.5	207.3	210.1	209.5	211.1	211.9
Farm value-retail cost (%)	23.3	22.2	20.6	20.7	19.7	20.1	19.7	19.8	19.7	19.8
<b>Meat products</b>										
Retail cost (1982-84=100)	144.4	141.6	142.3	142.8	145.7	147.0	150.1	151.7	152.7	153.9
Farm value (1982-84=100)	101.2	84.8	81.6	83.8	86.9	86.1	87.4	87.5	88.9	89.4
Farm-retail spread (1982-84=100)	188.6	200.0	204.7	203.3	206.1	209.5	214.4	217.6	218.1	220.1
Farm value-retail cost (%)	35.5	30.3	29.0	29.7	30.2	29.7	29.5	29.2	29.5	29.4
<b>Dairy products</b>										
Retail cost (1982-84=100)	145.5	150.8	159.6	156.5	159.1	160.6	159.6	159.5	160.5	161.0
Farm value (1982-84=100)	98.0	113.0	107.9	107.4	95.0	95.3	96.0	96.1	101.7	99.5
Farm-retail spread (1982-84=100)	189.3	185.6	207.2	201.8	218.2	220.8	218.3	217.9	214.7	217.7
Farm value-retail cost (%)	32.3	36.0	32.4	32.9	28.7	28.5	28.9	28.9	30.4	29.7
<b>Poultry</b>										
Retail cost (1982-84=100)	156.6	157.1	157.9	158.5	158.6	158.5	159.6	159.3	161.8	161.3
Farm value (1982-84=100)	120.6	126.1	119.0	119.0	113.1	118.2	119.8	120.4	121.9	115.6
Farm-retail spread (1982-84=100)	198.1	192.9	202.7	204	211	204.9	205.4	204.1	207.7	213.9
Farm value-retail cost (%)	41.2	42.9	40.3	40.2	38.2	39.9	40.2	40.5	40.3	38.4
<b>Eggs</b>										
Retail cost (1982-84=100)	140.0	137.1	128.1	130.8	127.1	129.5	124.1	125.9	125.5	130.5
Farm value (1982-84=100)	99.3	89.6	74.9	72.2	65.6	82.0	54.0	75.8	64.3	87.1
Farm-retail spread (1982-84=100)	213.0	222.5	223.7	236.1	237.5	214.9	250.1	215.9	235.5	208.4
Farm value-retail cost (%)	45.6	42.0	37.6	35.5	33.2	40.7	27.9	38.7	32.9	42.9
<b>Cereal and bakery products</b>										
Retail cost (1982-84=100)	177.6	181.1	185.0	184.9	186.1	187.2	188.6	187.7	189.6	189.9
Farm value (1982-84=100)	107.7	94.4	82.5	81.8	75.7	76.5	75.5	74.3	70.0	70.0
Farm-retail spread (1982-84=100)	187.4	193.2	199.2	199.3	201.5	202.7	204.4	203.5	206.3	206.6
Farm value-retail cost (%)	7.4	6.4	5.5	5.4	5.0	5.0	4.9	4.8	4.5	4.5
<b>Fresh fruit</b>										
Retail cost (1982-84=100)	245.1	258.2	294.3	294.2	283.0	282.2	282.7	267.8	272.2	277.7
Farm value (1982-84=100)	137.0	141.3	153.7	157.1	149.9	150.1	132.8	131.8	114.6	134.0
Farm-retail spread (1982-84=100)	295.0	312.2	359.3	357.5	344.5	343.2	351.9	330.6	345.0	344.0
Farm value-retail cost (%)	17.7	17.3	16.5	16.9	16.7	16.8	14.8	15.5	13.3	15.2
<b>Fresh vegetables</b>										
Retail cost (1982-84=100)	194.6	215.8	209.3	204.8	212.1	213.6	219.1	217.7	216.7	217.3
Farm value (1982-84=100)	118.7	124.5	118.1	113.5	109.4	126.0	136.0	125.7	127.0	131.3
Farm-retail spread (1982-84=100)	233.6	262.7	256.2	251.7	264.9	258.6	261.8	265.0	262.8	261.5
Farm value-retail cost (%)	20.7	19.6	19.2	18.8	17.5	20.0	21.1	19.6	19.9	20.5
<b>Processed fruits and vegetables</b>										
Retail cost (1982-84=100)	147.9	150.6	154.8	156.5	152.4	151.7	153.7	154	154.5	155.3
Farm value (1982-84=100)	115.9	115.1	113.5	114.5	111.3	111.9	111.6	110.5	110.5	110.2
Farm-retail spread (1982-84=100)	157.9	161.7	167.7	169.6	165.2	164.1	166.8	167.6	168.2	169.4
Farm value-retail cost (%)	18.6	18.2	17.4	17.4	17.4	17.5	17.3	17.1	17.0	16.9
<b>Fats and oils</b>										
Retail cost (1982-84=100)	141.7	146.9	148.3	148.6	145.9	144.8	147.0	146.6	148.1	148.9
Farm value (1982-84=100)	109.4	118.9	89.0	80.8	86.5	88.4	85.8	82.0	78.3	76.1
Farm-retail spread (1982-84=100)	153.6	157.2	170.0	173.5	167.8	165.5	169.5	170.4	173.8	175.7
Farm value-retail cost (%)	20.8	21.8	16.2	14.6	15.9	16.4	15.7	15.0	14.2	13.7

See footnotes at end of table, next page.

**Table 8—Farm-Retail Price Spreads (continued)**

	Annual			1999			2000			
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
Beef, all fresh retail value (cents/lb.)	253.8	253.3	260.5	260.5	272.5	274.3	278.6	279.5	281.2	281.8
Beef, Choice										
Retail value (cents/lb.) <sup>2</sup>	279.5	277.1	287.8	289.4	305.4	308.8	311.5	310.0	309.9	313.0
Wholesale value (cents/lb.) <sup>3</sup>	158.2	153.8	171.6	177.3	191.0	193.8	190.7	179.6	172.6	168.6
Net farm value (cents/lb.) <sup>4</sup>	137.2	130.8	141.1	140.9	158.9	153.2	149.2	144.7	138.5	136.6
Farm-retail spread (cents/lb.)	142.3	146.3	146.7	148.5	146.5	155.6	162.3	165.3	171.4	176.4
Wholesale-retail (cents/lb.) <sup>5</sup>	121.3	123.3	116.2	112.1	114.4	115.0	120.8	130.4	137.3	144.4
Farm-wholesale (cents/lb.) <sup>6</sup>	21.0	23.0	30.5	36.4	32.1	40.6	41.5	34.9	34.1	32.0
Farm value-retail value (%)	49.1	47.2	49.0	48.7	52.0	49.6	47.9	46.7	44.7	43.6
Pork										
Retail value (cents/lb.) <sup>2</sup>	245.0	242.7	241.5	248.1	255.5	256.2	260.3	262.3	265.6	265.0
Wholesale value (cents/lb.) <sup>3</sup>	123.1	97.3	99.0	105.0	118.6	119.7	122.1	123.1	117.3	111.9
Net farm value (cents/lb.) <sup>4</sup>	95.3	61.2	60.4	63.7	88.4	89.4	91.7	90.0	80.8	77.2
Farm-retail spread (cents/lb.)	149.7	181.5	181.1	184.4	167.1	166.8	168.6	172.3	184.8	187.8
Wholesale-retail (cents/lb.) <sup>5</sup>	121.9	145.4	142.5	143.1	136.9	136.5	138.2	139.2	148.3	153.1
Farm-wholesale (cents/lb.) <sup>6</sup>	27.8	36.1	38.6	41.3	30.2	30.3	30.4	33.1	36.5	34.7
Farm value-retail value (%)	38.9	25.2	25.0	25.7	34.6	34.9	35.2	34.3	30.4	29.1

1. Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by the Bureau of Labor Statistics (BLS). Farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for by-product. Farm values are based on prices at first point of sale, and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail value and farm value, represents charges for assembling, processing, transporting and distributing. 2. Weighted-average value of retail cuts from pork and Choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs and by-product values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of by-products. 5. Charges for retailing and other marketing services such as wholesaling and in-city transportation. 6. Charges for livestock marketing, processing, and transportation. *Information contact: Veronica Jones (202) 694-5387, William F. Hahn (202) 694-5175*

**Table 9—Price Indexes of Food Marketing Costs**

	Annual			1999				2000		
	1997	1998	1999	I	II	III	IV	I	II	III
1987=100*										
Labor—hourly earnings and benefits	474.3	490.4	503.3	498.6	503.5	504.2	506.7	508.2	512.0	512.9
Processing	486.0	499.3	511.4	504.2	512.1	513.4	515.6	518.1	523.4	527.6
Wholesaling	536.2	552.5	564.6	565.3	572.8	575.2	580.0	578.9	586.4	587.3
Retailing	435.2	454.1	465.8	463.6	464.2	463.8	465.4	467.1	467.8	465.2
Packaging and containers	390.3	395.5	399.4	390.3	396.4	403.0	407.7	410.3	410.6	413.5
Paperboard boxes and containers	341.9	365.2	373.0	355.7	368.3	380.2	387.8	391.9	413.0	412.4
Metal cans	491.0	487.9	486.6	486.6	486.6	486.6	486.6	489.5	440.1	440.1
Paper bags and related products	441.9	432.9	440.9	425.6	435.7	446.3	455.8	457.3	472.4	477.6
Plastic films and bottles	326.6	322.8	324.2	319.7	321.4	325.9	329.6	329.4	330.6	342.4
Glass containers	447.4	446.8	447.1	447.8	447.8	447.0	445.8	450.1	451.1	451.1
Metal foil	233.4	232.0	227.3	228.2	226.1	226.7	228.0	229.8	231.3	233.8
Transportation services	430.0	428.3	394.0	393.5	394.2	394.2	394.2	392.3	393.3	394.6
Advertising	609.4	624.5	623.7	622.2	622.9	623.9	625.6	633.6	635.0	635.7
Fuel and power	668.5	619.7	651.5	586.6	627.3	681.1	711.9	816.5	822.2	866.1
Electric	499.2	492.1	489.4	479.0	484.0	505.9	488.5	477.2	487.0	523.8
Petroleum	616.7	457.0	565.9	388.4	504.0	613.2	758.1	1,114.0	1,102.2	1,160.6
Natural gas	1,214.0	1,239.4	1,235.6	1,206.3	1,222.8	1,272.7	1,240.4	1,235.3	1,259.8	1,300.7
Communications, water and sewage	302.8	307.6	309.3	309.3	308.5	308.9	310.6	310.3	307.8	308.7
Rent	265.6	260.5	256.9	257.5	257.3	256.4	256.4	256.8	258.0	258.0
Maintenance and repair	514.9	529.3	541.6	537.9	540.7	542.5	545.3	552.2	558.3	564.7
Business services	512.3	522.9	531.9	528.1	530.2	533.3	536.1	540.3	543.2	543.7
Supplies	337.8	332.3	327.7	326.1	325.9	327.1	331.7	365.6	338.2	344.5
Property taxes and insurance	580.1	598.3	619.7	609.6	615.2	622.8	631.3	639.8	647.4	658.6
Interest, short-term	108.9	103.7	103.7	93.2	96.7	109.7	115.2	111.3	116.6	117.7
Total marketing cost index	459.9	467.2	472.2	465.1	470.7	475.2	479.1	486.7	488.8	492.4

Last two quarters preliminary. \* Indexes measure changes in employee earnings and benefits and in prices of supplies used in processing, wholesaling, and retailing U.S. farm foods purchased for at-home consumption. *Information contact: Veronica Jones (202) 694-5387*

## Livestock & Products

**Table 10—U.S. Meat Supply & Use**

	Beg. stocks	Produc- tion <sup>1</sup>	Imports	Total supply	Exports	Ending stocks	Consumption		Conversion factor <sup>3</sup>	Primary market price <sup>4</sup>
							Total	Per capita <sup>2</sup>		
Beef										
1997	377	25,490	2,344	28,211	2,136	465	25,611	67	0.700	66.32
1998	465	25,760	2,643	28,868	2,171	393	26,305	68	0.700	61.48
1999	393	26,493	2,874	29,760	2,411	411	26,938	69	0.700	65.56
2000	411	26,916	3,018	30,345	2,539	390	27,416	70	0.700	69
2001	390	25,581	3,050	29,021	2,465	365	26,191	66	0.700	71-77
Pork										
1997	366	17,274	634	18,274	1,044	408	16,823	49	0.776	54.30
1998	408	19,011	705	20,124	1,230	584	18,309	53	0.776	34.72
1999	584	19,308	827	20,720	1,285	489	18,945	54	0.776	34.00
2000	489	18,899	999	20,387	1,253	525	18,609	52	0.776	45
2001	525	19,380	1,005	20,910	1,305	550	19,055	53	0.776	40-43
Veal <sup>6</sup>										
1997	7	334	0	341	0	8	333	1	0.83	82
1998	8	262	0	270	0	5	265	1	0.83	82
1999	5	235	0	240	0	5	235	1	0.83	90
2000	5	226	0	231	0	4	227	1	0.83	105
2001	4	208	0	212	0	4	208	1	0.83	105
Lamb and mutton										
1997	9	260	83	352	6	14	332	1	0.89	88
1998	14	251	112	377	6	12	360	1	0.89	74
1999	12	248	113	372	5	9	358	1	0.89	76
2000	9	228	117	354	6	11	337	1	0.89	80
2001	11	220	114	345	4	10	331	1	0.89	80
Total red meat										
1997	759	43,358	3,061	47,178	3,185	894	43,099	118	--	--
1998	894	45,284	3,461	49,639	3,407	994	45,239	123	--	--
1999	994	46,284	3,813	51,092	3,701	914	46,476	125	--	--
2000	914	46,269	4,134	51,317	3,798	930	46,589	124	--	--
2001	930	45,389	4,169	50,488	3,774	929	45,785	121	--	--
										¢/lb
Broilers										
1997	641	27,041	5	27,687	4,664	607	22,416	72	0.859	59
1998	607	27,612	5	28,225	4,673	711	22,841	73	0.859	63
1999	711	29,468	4	30,183	4,920	796	24,468	77	0.859	58
2000	796	30,270	4	31,070	5,256	850	24,964	78	0.859	56
2001	850	31,324	4	32,178	5,300	880	25,998	80	0.859	54
Mature chickens										
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	525	0	533	426	6	101	1	1.0	--
1999	6	554	0	562	393	8	162	1	1.0	--
2000	8	553	0	562	304	5	252	1	1.0	--
2001	5	564	0	571	320	10	241	1	1.0	--
Turkeys										
1997	328	5,412	1	5,741	606	415	4,720	18	1.0	65
1998	415	5,215	0	5,630	446	304	4,880	18	1.0	62
1999	304	5,230	1	5,535	379	254	4,902	18	1.0	69
2000	254	5,382	1	5,637	426	225	4,986	18	1.0	71
2001	225	5,528	1	5,754	420	275	5,058	18	1.0	68
Total poultry										
1997	975	32,964	6	33,944	5,654	1,029	27,261	90	--	--
1998	1,029	33,352	6	34,387	5,545	1,022	27,821	91	--	--
1999	1,022	35,252	7	36,281	5,692	1,058	29,531	96	--	--
2000	1,058	36,205	7	37,270	5,987	1,080	30,202	97	--	--
2001	1,080	37,416	7	38,503	6,040	1,165	31,297	100	--	--
Red meat and poultry										
1997	1,734	76,321	3,067	81,123	8,839	1,923	70,360	208	--	--
1998	1,923	78,637	3,467	84,027	8,951	2,016	73,060	214	--	--
1999	2,016	81,537	3,820	87,372	9,393	1,972	76,007	220	--	--
2000	1,972	82,474	4,141	88,587	9,784	2,010	76,792	221	--	--
2001	2,010	82,805	4,176	88,991	9,814	2,094	77,082	220	--	--

-- = Not available. Values for the last 2 years are forecasts. 1. Total including farm production for red meat and federally inspected plus nonfederally inspected for poultry. 2. Retail-weight basis. 3. Red meat, carcass to retail conversion; poultry, ready-to-cook production to retail weight. 4. Beef: Medium #1, Nebraska Direct 1,100-1,300 lb.; pork: barrows and gilts, Iowa, Southern Minnesota; veal: farm price of calves; lamb and mutton: choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 5. Carcass weight for red meats and certified ready-to-cook for poultry. 6. Beginning in 1989, veal trade is no longer reported separately. *Information contact: LaVerne Williams (202) 694-5190*



**Table 11—U.S. Egg Supply & Use**

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption		Primary market price*
								Total	Per capita	
Million doz.								No.	¢/doz.	
1994	10.7	6,177.6	3.7	6,192.0	187.6	805.4	14.9	5,184.1	238.7	67.3
1995	14.9	6,215.6	4.1	6,234.6	208.9	847.2	11.2	5,167.3	235.6	72.9
1996	11.2	6,350.7	5.4	6,367.3	253.1	863.8	8.5	5,241.8	236.8	88.2
1997	8.5	6,473.1	6.9	6,488.5	227.8	894.7	7.4	5,358.6	240.1	81.2
1998	7.4	6,657.9	5.8	6,671.2	218.8	921.8	8.4	5,522.2	244.9	75.8
1999	8.4	6,912.0	7.4	6,927.8	161.7	941.7	7.6	5,816.8	255.7	65.6
2000	7.6	7,052.1	7.0	7,066.7	160.8	942.9	10.0	5,953.0	259.3	65.4
2001	10.0	7,155.0	5.0	7,170.0	170.0	980.0	5.0	6,015.0	259.9	63.5

Values for the last year are forecasts. Values for previous year are preliminary. \* Cartoned grade A large eggs, New York.

Information contact: LaVerne Williams (202) 694-5190

**Table 12—U.S. Milk Supply & Use<sup>1</sup>**

	Production	Commercial				Total commercial supply	Commercial				CCC net removals	
		Farm use	Farm marketings	Beg. stocks	Imports		CCC net removals	Ending stocks	Disappearance	All milk price <sup>1</sup>	Skim solids basis	Total solids basis <sup>2</sup>
Million lbs. (milkfat basis)										\$/cwt	Billion lbs.	
1993	150.6	1.8	148.8	4.7	2.8	156.3	6.6	4.5	145.1	12.80	3.9	5.0
1994	153.6	1.7	151.9	4.5	2.9	159.3	4.8	4.3	150.3	12.97	3.7	4.2
1995	155.3	1.6	153.7	4.3	2.9	160.9	2.1	4.1	154.9	12.74	4.4	3.5
1996	154.0	1.5	153.5	4.1	2.9	159.5	0.1	4.7	154.7	14.74	0.7	0.5
1997	156.1	1.4	154.7	4.7	2.7	162.1	1.1	4.9	156.1	13.34	3.7	2.7
1998	157.4	1.4	156.1	4.9	4.6	165.5	0.4	5.3	159.9	15.42	4.0	2.6
1999	162.7	1.4	161.3	5.3	4.7	171.4	0.3	6.1	164.9	14.36	6.5	4.0
2000	168.2	1.3	166.9	6.1	4.5	177.5	0.8	6.4	170.3	12.40	10.1	6.4
2001	168.7	1.3	167.5	6.4	4.3	178.2	0.4	5.5	172.3	12.10	1.8	1.2

Values for latest year are forecasts. Values for the preceding year are preliminary. 1. Delivered to plants and dealers; does not reflect deductions.

2. Arbitrarily weighted average of milkfat basis (40 percent) and solids basis (60 percent). Information contact: Jim Miller (202) 694-5184

**Table 13—Poultry & Eggs**

	Annual			1999		2000					
	1997	1998	1999	Aug	Mar	Apr	May	Jun	Jul	Aug	
<b>Broilers</b>											
Federally inspected slaughter certified (mil. lb.)	27,270.7	27,862.7	29,741.4	2,516.4	2,689.9	2,340.5	2,741.9	2,672.9	2,415.7	2,717.9	
Wholesale price, 12-city (cents/lb.)	58.8	63.1	58.1	57.7	54.5	55.4	55.7	56	56.6	55.5	
Price of grower feed (\$/ton) <sup>1</sup>	157.7	128.8	102.8	97.9	110.8	112.3	115.6	108.8	97.4	94.6	
Broiler-feed price ratio <sup>2</sup>	4.7	6.3	7.2	7.6	6.3	6.5	6.4	6.8	7.7	7.4	
Stocks beginning of period (mil. lb.)	641.3	606.8	711.1	861.9	786.7	804.9	842.6	816.5	813.5	817.2	
Broiler-type chicks hatched (mil.)	8,321.6	8,491.9	8,715.7	741.7	756.4	743.5	775.2	748.0	739.9	739.9	
<b>Turkeys</b>											
Federally inspected slaughter certified (mil. lb.)	5,477.9	5,280.6	5,296.5	468.8	471.4	416.5	492.3	483.4	425.3	485.2	
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	64.9	62.2	69.0	73.6	65.4	67.4	69.2	70.4	71.6	73.6	
Price of turkey grower feed (\$/ton) <sup>1</sup>	142.7	115.9	95	90.7	100.1	102.1	104.9	97.9	88.2	86.7	
Turkey-feed price ratio <sup>2</sup>	5.6	6.7	8.7	9.5	7.6	7.8	7.7	8.5	9.5	9.9	
Stocks beginning of period (mil. lb.)	328.0	415.1	304.3	599	347.3	387.5	413.3	477.0	503.6	524.1	
Poultz placed in U.S. (mil.)	321.5	297.8	297.3	24.8	25.7	25.1	26.3	27.0	27.1	25.4	
<b>Eggs</b>											
Farm production (mil.)	77,677	79,941	82,939	6,971	7,235	7,013	7,105	6,804	7,063	7,100	
Average number of layers (mil.)	304	313	323	320	331	329	326	325	326	325	
Rate of lay (eggs per layer on farms)	255.3	255.4	256.8	21.8	21.9	21.3	21.8	20.9	21.7	21.8	
Cartoned price, New York, grade A large (cents/doz.) <sup>3</sup>	81.2	75.8	65.6	67.4	60.7	68.5	53.4	64.2	61.9	72.5	
Price of laying feed (\$/ton) <sup>1</sup>	160.0	137.7	124.8	116.8	143.5	139.4	165.1	131.0	124.3	104.8	
Egg-feed price ratio <sup>2</sup>	8.8	9.8	9.8	10.1	8.0	9.4	6.3	9.6	9.2	13.0	
Stocks, first of month Frozen (mil. doz.)	7.7	7.4	8.4	8.5	7.0	6.1	5.4	6.2	6.6	10.9	
Replacement chicks hatched (mil.)	424.5	438.3	450.9	35.5	39.6	36.6	40.9	36.6	33.1	34.3	

1. Calculated from price ratios that were revised February 1995. 2. Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight (revised February 1995). 3. Price of cartoned eggs to volume buyers for delivery to retailers. Information contact: LaVerne Williams (202) 694-5190

**Table 14—Dairy**

	Annual			1999		2000				
	1997	1998	1999	Aug	Mar	Apr	May	Jun	Jul	Aug
Class III (BFP before 2000) 3.5% fat (\$/cwt.)	12.05	14.20	12.43	15.79	9.54	9.41	9.37	9.46	10.66	10.13
Wholesale prices										
Butter, Central States (cents/lb.) <sup>1</sup>	116.2	177.6	125.2	141.3	99.7	108.7	122.2	128.6	120.3	120.3
Am. cheese, Wis. assembly pt. (cents/lb.)	132.4	158.1	142.3	188.9	112.2	110.7	110.6	120	125.2	125.5
Nonfat dry milk (cents/lb.) <sup>2</sup>	110.0	106.9	103.5	102.3	100.1	100	100.1	101.2	102.2	102.3
USDA net removals										
Total (mil. lb.) <sup>3</sup>	1,090.3	365.6	343.5	20.3	86.3	77.7	106.9	78	54.5	45.9
Butter (mil. lb.)	38.4	6.3	3.7	0.0	1.6	0.9	0.8	0.7	0.2	0
Am. cheese (mil. lb.)	11.3	8.2	4.6	0.5	1.8	2.2	4.5	1.9	2.1	1.5
Nonfat dry milk (mil. lb.)	298.0	326.4	540.6	36.3	76.5	75	81.8	61.9	42.1	50.5
Milk										
Milk prod. 20 states (mil. lb.)	133,314	134,900	140,029	11,534	12,679	12,399	12,743	12,083	12,232	11,966
Milk per cow (lb.)	17,180	17,501	18,103	1,487	1,631	1,592	1,635	1,547	1,561	1,526
Number of milk cows (1,000)	7,760	7,708	7,735	7,755	7,774	7,787	7,795	7,810	7,834	7,840
U.S. milk production (mil. lb.) <sup>4</sup>	156,091	157,348	162,711	13,357	14,739	14,385	14,778	14,008	14,167	13,854
Stocks, beginning <sup>3</sup>										
Total (mil. lb.)	4,714	4,907	5,301	9,479	8,357	8,702	9,602	9,983	10,376	10,676
Commercial (mil. lb.)	4,704	4,889	5,274	9,436	8,300	8,638	9,520	9,883	10,255	10,541
Government (mil. lb.)	10	18	28	44	57	64	82	100	121	135
Imports, total (mil. lb.) <sup>3</sup>	2,698	4,588	4,772	479	371	358	412	439	448	--
Commercial disappearance (mil. lb.) <sup>3</sup>	156,118	159,779	164,911	13,564	14,573	13,674	14,607	13,889	14,161	--
Butter										
Production (mil. lb.)	1,151.2	1,168.0	1,275.0	78.2	122.5	115.4	111.2	91.8	87.0	85.5
Stocks, beginning (mil. lb.)	13.4	20.5	25.9	123.2	88.5	97.4	126.6	137.6	144.4	136.5
Commercial disappearance (mil. lb.)	1,108.7	1,222.5	1,308.6	116.9	113.7	86.7	102.7	90.9	101.8	--
American cheese										
Production (mil. lb.)	3,285.6	3,314.7	3,576.5	293.1	320.2	312.5	326.5	310.6	321.7	304.5
Stocks, beginning (mil. lb.)	379.6	410.3	407.6	543.6	515.3	525	547.9	554.6	570.2	613.1
Commercial disappearance (mil. lb.)	3,269.0	3,338.6	3,586.1	332.2	313.7	292.9	321.8	297.5	279.9	--
Other cheese										
Production (mil. lb.)	4,044.9	4,177.5	4,367.5	355.3	397.7	381	410.6	387	368.3	383.4
Stocks, beginning (mil. lb.)	107.3	70.0	109.5	205.1	193	201.7	200.7	208.8	212.0	221.5
Commercial disappearance (mil. lb.)	4,366.6	4,452.0	4,678.2	408.2	418.4	409.1	432.6	412.7	388	--
Nonfat dry milk										
Production (mil. lb.)	1,271.6	1,135.4	1,378.2	95.8	139.5	147	137.9	128.3	121.7	105.3
Stocks, beginning (mil. lb.)	71.1	103.3	56.9	143.7	173.4	167.9	197.4	197	170.7	189.6
Commercial disappearance (mil. lb.)	894.1	866.9	791.1	95.4	69.2	42.8	57.1	93.1	61.5	--
Frozen dessert										
Production (mil. gal.) <sup>5</sup>	1,290.0	1,324.3	1,311.8	126.5	120.4	117.2	127.3	133.8	127.4	123.7

-- = Not available. Quarterly values for latest year are preliminary. 1. Grade AA Chicago before June 1998. 2. Prices paid f.o.b. Central States production area. 3. Milk equivalent, fat basis. 4. Monthly data ERS estimates. 5. Hard ice cream, ice milk, and hard sherbet.

Information contact: LaVerne Williams(202) 694-5190

**Table 15—Wool**

	Annual			1998		1999				2000		
	1997	1998	1999	IV	I	II	III	IV	I	II	III	
U.S. wool price (¢/lb.) <sup>1</sup>	238	162	110	115	115	116	110	98	97	120	117	
Imported wool price (¢/lb.) <sup>2</sup>	206	164	136	141	146	142	133	125	133	139	139	
U.S. mill consumption, scoured												
Apparel wool (1,000 lb.)	130,386	98,373	65,468	17,530	17,294	16,815	15,793	13,633	17,142	15,775	--	
Carpet wool (1,000 lb.)	13,576	16,331	15,017	4,388	4,220	3,581	3,183	2,966	3,784	3,327	--	

NA = Not available. 1. Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up. 2. Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10 cents.

Information contact: Mae Dean Johnson (202) 694-5299

**Table 16—Meat Animals**

	Annual		1999		2000					
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
<b>Cattle on feed (7 states, 1000+ head capacity)</b>										
Number on feed (1,000 head) <sup>1</sup>	8,943	9,455	9,021	8,185	9,573	9,361	9,411	8,959	8,812	8,972
Placed on feed (1,000 head)	20,765	19,697	21,446	2,345	1,450	1,998	1,413	1,674	2,091	2,286
Marketings (1,000 head)	19,552	19,440	20,124	1,682	1,591	1,863	1,828	1,784	1,895	1,708
Other disappearance (1,000 head)	701	691	676	55	71	85	37	37	36	48
<b>Market prices (\$/cwt)</b>										
<b>Slaughter cattle</b>										
Choice steers, 1,100-1,300 lb.										
Texas	65.99	61.75	65.89	66.06	73.13	71.28	69.41	67.22	65.02	64.43
Neb. direct	66.32	61.48	65.65	66.06	73.52	71.66	69.59	66.46	64.69	65.14
Boning utility cows, Sioux Falls	34.27	36.20	38.40	38.00	43.81	43.50	45.38	43.88	43.00	41.88
<b>Feeder steers</b>										
Medium no. 1, Oklahoma City										
600-650 lb.	81.34	77.70	82.64	83.20	95.47	95.03	95.23	98.07	94.07	90.97
750-800 lb.	76.19	71.80	76.39	70.26	84.28	83.42	86.71	89.25	85.85	83.64
<b>Slaughter hogs</b>										
Barrows and gilts, 51-52 percent lean										
National Base converted to live equal.	54.30	34.72	34.02	35.71	49.59	50.21	51.48	50.45	45.35	43.49
Sows, Iowa, S.MN 1-2 300-400 lb.	40.24	20.29	19.26	19.90	30.33	33.17	33.70	32.31	32.55	30.72
<b>Slaughter sheep and lambs</b>										
Lambs, Choice, San Angelo	87.95	74.20	75.97	77.00	78.25	89.65	78.30	84.17	82.20	82.00
Ewes, Good, San Angelo	49.33	40.90	42.32	42.79	47.08 --		44.86	48.00	41.40	43.43
<b>Feeder lambs</b>										
Choice, San Angelo	104.43	79.59	81.05	76.71	99.33	100.45	91.14	93.25	91.70	93.89
<b>Wholesale meat prices, Midwest</b>										
Boxed beef cut-out value										
Choice, 700-800 lb.	102.75	98.60	111.55	115.16	123.97	126.00	123.85	115.60	110.33	108.56
Select, 700-800 lb.	96.15	92.19	101.99	102.69	115.40	111.19	110.16	106.87	106.59	102.08
Canner and cutter cow beef	64.50	61.49	66.66	67.63	74.38	73.60	74.20	75.33	73.04	69.57
Pork cutout	70.87	53.08	53.45	56.56	68.92	68.49	70.07	70.45	65.69	63.22
Pork loins, bone-in, 1/4 " trim, 14-19 lb.	128.75	102.04	100.25	104.99	127.48	115.38	132.53	131.73	120.45	119.22
Pork bellies, 12-14 lb.	73.91	52.38	57.43	57.87	93.70	97.85	91.99	90.38	75.64	63.94
Hams, bone-in, trimmed, 20-23 lb.	--	--	47.90	53.65	48.84	53.36	54.43	60.07	60.99	64.41
All fresh beef retail price	253.77	253.28	260.50	260.50	272.50	274.30	278.60	279.50	281.20	281.80
<b>Commercial slaughter (1,000 head)<sup>2</sup></b>										
Cattle	36,318	35,465	36,150	3,099	2,782	3,176	3,237	2,962	3,260	3,035
Steers	17,529	17,428	17,936	1,541	1,409	1,647	1,676	1,600	1,681	1,516
Heifers	11,528	11,448	11,866	1,027	923	1,006	1,041	917	1,061	1,022
Cows	6,564	5,983	5,708	474	402	467	464	396	459	444
Bull and stags	696	606	639	57	48	56	56	49	59	52
Calves	1,575	1,458	1,484	120	81	92	95	99	100	93
Sheep and lambs	3,911	3,911	3,698	308	345	259	260	243	283	269
Hogs	91,960	101,029	101,544	8,641	7,210	7,945	7,952	7,357	8,622	8,118
Barrows and gilts	88,409	97,030	97,738	8,312	6,963	7,664	7,654	7,084	8,310	7,840
<b>Commercial production (mil. lb.)</b>										
Beef	25,384	25,653	25,656	2,275	2,026	2,302	2,369	2,202	2,437	2,275
Veal	324	252	250	20	17	19	19	18	18	17
Lamb and mutton	257	248	247	19	23	17	17	16	17	17
Pork	17,244	18,981	18,981	1,618	1,394	1,540	1,536	1,408	1,641	1,552
	Annual			1999			2000			
	1997	1998	1999	II	III	IV	I	II	III	IV
<b>Hogs and pigs (U.S.)<sup>3</sup></b>										
Inventory (1,000 head) <sup>1</sup>	56,124	61,158	62,206	60,191	60,896	60,776	59,337	57,777	59,397	60,185
Breeding (1,000 head) <sup>1</sup>	6,578	6,957	6,682	6,527	6,515	6,301	6,244	6,200	6,234	6,266
Market (1,000 head) <sup>1</sup>	49,546	54,200	55,523	53,663	54,380	54,474	53,094	51,578	53,164	53,920
Farrowings (1,000 head)	11,479	12,061	11,666	2,986	2,920	2,844	2,798	2,900	2,903	2,883
Pig crop (1,000 head)	99,584	105,004	102,569	26,270	25,860	24,972	24,522	25,786	25,681	--
<b>Cattle on Feed, 7 states (1,000 head)<sup>4</sup></b>										
Steers and steer calves	5,410	5,803	5,432	5,341	4,849	5,286	5,768	5,736	5,326	5,584
Heifers and heifer calves	3,455	3,615	3,552	3,527	3,302	3,479	3,942	3,800	3,602	3,877
Cows and bulls	78	59	37	31	44	28	42	37	31	41

-- = Not available. 1. Beginning of period. 2. Classes estimated. 3. Quarters are Dec. of preceding year to Feb. (I), Mar.-May (II), June-Aug. (III), and Sept.-Nov. (IV). 4. Beginning of period. The 7 states include AZ, CA, CO, IA, KS, NE, and TX. Information contact: Leland Southard (202) 694-5187

## Crops & Products

**Table 17—Supply & Utilization<sup>1,2</sup>**

	Area			Yield	Production	Total supply <sup>4</sup>	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price <sup>5</sup>
	Set-aside <sup>3</sup>	Planted	Harvested									
	Mil. Acres	Bu./acre	Mil. bu.									
Wheat												
1996/97	--	75.1	62.8	36.3	2,277	2,746	308	993	1,002	2,302	444	4.30
1997/98	--	70.4	62.8	39.5	2,481	3,020	251	1,007	1,040	2,298	722	3.38
1998/99	--	65.8	59.0	43.2	2,547	3,373	394	990	1,042	2,427	946	2.65
1999/00*	--	62.7	53.8	42.7	2,299	3,339	284	1,016	1,090	2,390	950	2.48
2000/01*	--	62.5	53.2	42.1	2,239	3,289	250	1,026	1,125	2,401	888	2.35-2.75
	Mil. acres		Lb./acre				Mil. cwt (rough equiv)					\$/cwt
Rice <sup>6</sup>												
1996/97	--	2.8	2.8	6,120.0	171.6	207.1	--	6/ 102.6	77.3	179.9	27.2	9.96
1997/98	--	3.1	3.1	5,897.0	183.0	219.4	--	6/ 104.6	87.0	191.5	27.9	9.70
1998/99	--	3.3	3.3	5,663.0	184.4	222.9	--	6/ 115.5	85.3	200.8	22.1	8.89
1999/00*	--	3.5	3.5	5,866.0	206.0	238.1	--	6/ 122.6	88.0	210.6	27.5	6.11
2000/01*	--	3.1	3.1	6,230.0	192.2	230.0	--	6/ 122.9	80.0	202.9	27.1	5.75-6.25
	Mil. acres		Bu./acre				Mil. bu.					\$/bu.
Corn												
1996/97	--	79.2	72.6	127.1	9,233	9,672	5,277	1,714	1,797	8,789	883	2.71
1997/98	--	79.5	72.7	126.7	9,207	10,099	5,482	1,805	1,504	8,791	1,308	2.43
1998/99	--	80.2	72.6	134.4	9,759	11,085	5,471	1,846	1,981	9,298	1,787	1.94
1999/00*	--	77.4	70.5	133.8	9,437	11,239	5,676	1,913	1,935	9,524	1,715	1.80
2000/01*	--	79.6	73.0	139.6	10,192	11,917	5,850	1,975	2,275	10,100	1,817	1.65-2.05
	Mil. acres		Bu./acre				Mil. bu.					\$/bu.
Sorghum												
1996/97	--	13.1	11.8	67.3	795	814	516	45	205	766	47	2.34
1997/98	--	10.1	9.2	69.2	634	681	365	55	212	632	49	2.21
1998/99	--	9.6	7.7	67.3	520	569	262	45	197	504	65	1.66
1999/00*	--	9.3	8.5	69.7	595	660	290	55	250	595	65	1.55
2000/01*	--	9.0	7.7	60.7	465	531	230	50	200	480	51	1.45-1.85
	Mil. acres		Bu./acre				Mil. bu.					\$/bu.
Barley												
1996/97	--	7.1	6.7	58.5	392	529	217	172	31	419	109	2.74
1997/98	--	6.7	6.2	58.1	360	510	144	172	74	390	119	2.38
1998/99	--	6.3	5.9	60.0	352	501	161	170	28	360	142	1.98
1999/00*	--	5.2	4.7	59.2	280	450	136	172	30	338	111	2.13
2000/01*	--	5.8	5.2	61.4	320	462	150	172	35	357	105	2.10-2.40
	Mil. acres		Bu./acre				Mil. bu.					\$/bu.
Oats												
1996/97	--	4.6	2.7	57.7	153	317	172	76	3	250	67	1.96
1997/98	--	5.1	2.8	59.5	167	332	185	72	2	258	74	1.60
1998/99	--	4.9	2.8	60.2	166	348	196	69	2	266	81	1.10
1999/00*	--	4.7	2.5	59.6	146	326	180	68	2	250	76	1.12
2000/01*	--	4.5	2.3	64.4	150	326	180	68	2	250	76	1.05-1.25
	Mil. acres		Bu./acre				Mil. bu.					\$/bu.
Soybeans <sup>7</sup>												
1996/97	--	62.6	61.6	35.3	2,177	2,516	112	1,370	851	2,333	183	6.72
1997/98	--	70.0	69.1	38.9	2,689	2,826	156	1,597	873	2,626	200	6.47
1998/99	--	72.0	70.4	38.9	2,741	2,944	201	1,590	805	2,595	348	4.93
1999/00*	--	73.7	72.4	36.6	2,654	3,006	170	1,579	970	2,719	288	4.65
2000/01*	--	74.5	73.0	38.7	2,823	3,114	168	1,615	965	2,749	365	4.60-5.20
							Mil. lbs.					¢/lb.
Soybean oil												
1996/97	--	--	--	--	15,752	17,821	--	14,263	2,037	16,300	1,520	22.50
1997/98	--	--	--	--	18,143	19,723	--	15,262	3,079	18,341	1,382	25.84
1998/99	--	--	--	--	18,081	19,546	--	15,655	2,371	18,027	1,520	19.90
1999/00*	--	--	--	--	17,845	19,445	--	16,100	1,375	17,475	1,970	15.60
2000/01*	--	--	--	--	18,330	20,390	--	16,500	1,900	18,400	1,990	15.00-18.00
							1,000 tons					\$/ton <sup>8</sup>
Soybean meal												
1996/97	--	--	--	--	34,210	34,524	--	27,320	6,994	34,314	210	270.9
1997/98	--	--	--	--	38,176	38,443	--	28,895	9,329	38,225	218	185.5
1998/99	--	--	--	--	37,792	38,109	--	30,657	7,122	37,779	330	138.5
1999/00*	--	--	--	--	37,620	38,000	--	30,450	7,325	37,775	225	167.0
2000/01*	--	--	--	--	38,410	38,700	--	31,200	7,250	38,450	250	160-185

See footnotes at end of table, next page



**Table 17—Supply & Utilization (continued)**

	Area			Yield	Production	Total supply <sup>4</sup>	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price <sup>5</sup>
	Set-aside <sup>3</sup>	Planted	Harvested									
	Mil. Acres			Lb./acre				Mil. Bales				¢/lb.
Cotton <sup>9</sup>												
1996/97	1.7	14.7	12.9	705	18.9	22.0	--	11.1	6.9	18.0	4.0	69.3
1997/98	0.3	13.9	13.4	673	18.8	22.8	--	11.3	7.5	18.8	3.9	65.2
1998/99	--	13.4	10.7	625	13.9	18.2	--	10.4	4.3	14.7	3.9	60.2
1999/00*	--	14.9	13.4	607	17.0	21.0	--	10.2	6.8	17.0	3.9	45.0
2000/01*	--	15.5	13.5	620	17.5	21.5	--	10.1	7.6	17.7	3.8	--

-- = Not available or not applicable. \*October 12, 2000 Supply and Demand Estimates. 1. Marketing year beginning June 1 for wheat, barley, and oats; August 1 for cotton and rice; September 1 for soybeans, corn, and sorghum; October 1 for soybean meal and soybean oil. 2. Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3. Includes diversion, acreage reduction, 50-92, & 0-92 programs. 0/92 & 50/92 set-aside includes idled acreage and acreage planted to minor oilseeds, sesame, and crambe. 4. Includes imports. 5. Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding and government purchases. 6. Residual included in domestic use. 7. Includes seed. 8. Simple average of 48 percent protein, Decatur. 9. Upland and extra-long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply and use estimates and changes in ending stocks. *Information contacts: Wheat, rice, feed grains, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

**Table 18—Cash Prices, Selected U.S. Commodities**

	Marketing year <sup>1</sup>			1999	2000					
	1997/98	1998/99	1999/00	Aug	Mar	Apr	May	Jun	Jul	Aug
Wheat, no. 1 HRW, Kansas City (\$/bu.) <sup>2</sup>	3.71	3.08	2.87	2.85	2.91	2.84	2.95	3.07	2.97	2.89
Wheat, DNS, Minneapolis (\$/bu.) <sup>3</sup>	4.31	3.83	3.65	3.58	3.65	3.69	3.80	3.78	3.50	3.29
Rice, S.W. La. (\$/cwt) <sup>4</sup>	18.92	16.79	12.99	14.68	12.63	12.31	11.88	11.47	11.43	11.69
Corn, no. 2 yellow, 30-day, Chicago (\$/bu.) <sup>5</sup>	2.56	2.06	1.97	1.84	2.17	2.21	2.25	2.01	1.65	1.61
Sorghum, no. 2 yellow, Kansas City (\$/cwt) <sup>5</sup>	4.11	3.29	3.10	3.24	3.51	3.53	3.75	3.18	2.71	2.76
Barley, feed, Duluth (\$/bu.)	1.90	--	--	--	--	--	--	--	--	--
Barley, malting Minneapolis (\$/bu.)	2.50	--	--	2.30	--	--	--	--	--	--
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.) <sup>6</sup>	67.79	60.12	--	49.72	57.67	53.76	58.31	54.97	55.13	59.33
Northern Europe prices cotton index (¢/lb.) <sup>7</sup>	72.11	58.97	--	50.98	57.45	58.90	60.53	59.56	58.40	60.93
U.S. M 1-3/32 in. (¢/lb.) <sup>8</sup>	77.98	74.08	--	58.63	64.70	64.31	68.88	--	--	67.95
Soybeans, no. 1 yellow, 30-day Chicago (\$/bu)	6.51	5.13	--	4.45	5.05	5.22	5.34	5.03	4.58	4.50
Soybean oil, crude, Decatur (¢/lb.)	25.84	19.90	--	16.50	16.21	15.63	16.74	14.59	16.74	14.34
Soybean meal, 48% protein, Decatur (\$/ton)	185.54	138.50	--	148.54	175.50	176.45	187.90	187.05	168.45	162.64

-- = No quotes. 1. Beginning June 1 for wheat and barley; Aug. 1 for rice and cotton; September 1 for corn, sorghum, and soybeans; October 1 for soybean meal and oil. 2. Ordinary protein. 3. 14 percent protein. 4. Long grain, milled basis. 5. Marketing year 1998/99 data are preliminary. 6. Average spot market. 7. Liverpool Cotlook "A" Index; average of 5 lowest prices of 13 selected growths. 8. Cotton, Memphis territory growths. *Information contacts: Wheat, rice, and feed, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

Table 19—Farm Programs, Price Supports, Participation, &amp; Payment Rates

	Target price	Basic loan rate	Findley or announced loan rate <sup>1</sup>	Total deficiency payment rate	Effective base acres <sup>2</sup>	Program <sup>3</sup>	Flexibility contract payment rate	Acres under contract	Contract payment yields	Participation rate <sup>4</sup>
					Mil. acres	Percent of base	\$/bu.	Mil. acres	Bu./acre	Percent
	\$/bu.									
Wheat										
1995/96	4.00	2.69	2.58	0.00	77.70	0/0/0	--	--	--	85
1996/97	--	--	2.58	--	--	--	0.874	76.7	34.70	99
1997/98	--	--	2.58	--	--	--	0.631	76.7	34.70	--
1998/99	--	--	2.58	--	--	--	0.663	78.9	34.50	--
1999/2000 <sup>5</sup>	--	--	2.58	--	--	--	0.637	79.0	34.50	--
	\$/cwt						\$/cwt		Cwt/acre	
Rice										
1995/96	10.71	6.50	6.50 <sup>6</sup>	3.22 <sup>7</sup>	4.20	5/0/0	--	--	--	95
1996/97	--	6.50	--	--	--	--	2.766	4.2	48.27	99
1997/98	--	6.50	--	--	--	--	2.710	4.2	48.17	--
1998/99	--	6.50	--	--	--	--	2.921	4.2	48.17	--
1999/2000 <sup>5</sup>	--	6.50	--	--	--	--	2.820	4.2	48.15	--
	\$/bu.						\$/bu.		Bu./acre	
Corn										
1995/96	2.75	1.94	1.89	0.00	81.80	7.5/0/0	--	--	--	82
1996/97	--	--	1.89	--	--	--	0.251	80.7	102.90	98
1997/98	--	--	1.89	--	--	--	0.486	80.9	102.80	--
1998/99	--	--	1.89	--	--	--	0.377	82.0	102.60	--
1999/2000 <sup>5</sup>	--	--	1.89	--	--	--	0.363	81.9	102.60	--
	\$/bu.						\$/bu.		Bu./acre	
Sorghum										
1995/96	2.61	1.84	1.80	0.00	13.30	0/0/0	--	--	--	77
1996/97	--	--	1.81	--	--	--	0.323	13.1	57.30	99
1997/98	--	--	1.76	--	--	--	0.544	13.1	57.30	--
1998/99	--	--	1.74	--	--	--	0.452	13.6	56.90	--
1999/2000 <sup>5</sup>	--	--	1.74	--	--	--	0.435	13.7	56.90	--
	\$/bu.						\$/bu.		Bu./acre	
Barley										
1995/96	2.36	1.58	1.54	0.00	10.70	0/0/0	--	--	--	82
1996/97	--	--	1.55	--	--	--	0.332	10.5	47.30	99
1997/98	--	--	1.57	--	--	--	0.277	10.5	47.20	--
1998/99	--	--	1.56	--	--	--	0.284	11.2	46.70	--
1999/2000 <sup>5</sup>	--	--	1.59	--	--	--	0.271	11.2	46.60	--
	\$/bu.						\$/bu.		Bu./acre	
Oats										
1995/96	1.45	1.00	0.97	0.00	6.50	0/0/0	--	--	--	44
1996/97	--	--	1.03	--	--	--	0.033	6.2	50.80	97
1997/98	--	--	1.11	--	--	--	0.031	6.2	50.80	--
1998/99	--	--	1.11	--	--	--	0.031	6.5	50.70	--
1999/2000 <sup>5</sup>	--	--	1.13	--	--	--	0.030	6.5	50.60	--
	\$/bu.						\$/bu.		Bu./acre	
Soybeans <sup>8</sup>										
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
1998/99	--	--	5.26	--	--	--	--	--	--	--
1999/2000	--	--	5.26	--	--	--	--	--	--	--
	¢/lb.						¢/lb.		Lb./acre	
Upland cotton										
1995/96	72.90	51.92	51.92 <sup>9</sup>	0.00 <sup>7</sup>	15.50	0/0/0	--	--	--	79
1996/97	--	51.92	--	--	--	--	8.882	16.2	610.00	99
1997/98	--	51.92	--	--	--	--	7.625	16.2	608.00	--
1998/99	--	51.92	--	--	--	--	8.173	16.4	604.00	--
1999/2000 <sup>5</sup>	--	51.92	--	--	--	--	7.880	16.4	604.00	--

-- = Not available. 1. There are no Findley loan rates for rice or cotton. See footnotes 5 and 7. 2. Prior to 1996, national effective crop acreage base as determined by FSA. Net of CRP. 3. Program requirements for participating producers (mandatory acreage reduction program/mandatory paid land diversion/optional paid land diversion). Acres idled must be devoted to a conserving use to receive program benefits. 4. Percentage of effective base enrolled in acreage reduction programs. Starting in 1996, participation rate is the percent of eligible acres that entered production flexibility contracts. 5. Estimated payment rates and acres under contract. 6. A marketing loan program has been in effect for rice since 1985/86. Loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly). Loans cannot be repaid at less than a specified fraction of the loan rate. Data refer to marketing-year average loan repayment rates. Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. 7. Guaranteed payment rates for producers in the 50/85/92 program were \$0.034/lb. for upland cotton and \$4.21/cwt. for rice. 8. There are no target prices, base acres, acreage reduction programs or deficiency payment rates for soybeans. 9. A marketing loan program has been in effect for cotton since 1986/87. In 1987/88 and after, loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly; Plan B). Starting in 1991/92, loans cannot be repaid at less than 70 percent of the loan rate. Data refer to annual average loan repayment rates. Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. Note: The 1996 Farm Act replaced target prices and deficiency payments with fixed annual payments to producers. Information contact: Brenda Chewning, Farm Service Agency (202) 720-8838

**Table 20—Fruit**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Citrus <sup>1</sup>										
Production (1,000 tons)	10,860	11,285	12,452	15,274	14,561	15,799	15,712	17,271	17,770	13,633
Per capita consumpt. (lb.) <sup>2</sup>	21.4	19.1	24.4	26.0	25.0	24.1	25.0	27.0	27.1	20.7
Noncitrus <sup>3</sup>										
Production (1,000 tons)	15,640	15,740	17,124	16,554	17,339	16,348	16,103	18,363	16,528	17,275
Per capita consumpt. (lb.) <sup>2</sup>	70.4	70.5	73.7	73.8	75.6	73.6	73.9	73.1	76.4	81.3
	1999				2000					
	Sep	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Grower prices										
Apples (¢/pound) <sup>4</sup>	23.2	23.5	21.1	20.5	19.7	18.2	16.1	16.2	19.5	23.3
Pears (¢/pound) <sup>4</sup>	15.75	20.70	19.30	15.65	13.45	10.20	11.00	13.50	14.00	15.85
Oranges (\$/box) <sup>5</sup>	7.98	3.27	3.51	3.54	4.14	4.60	4.43	3.07	2.17	0.93
Grapefruit (\$/box) <sup>5</sup>	8.18	2.40	3.64	3.63	2.82	2.51	1.29	6.14	4.45	6.71
Stocks, ending										
Fresh apples (mil. lb.)	2,835	4,017	3,231	2,465	1,891	1,293	832	412	129	3,299
Fresh pears (mil. lb.)	552	241	191	133	105	70	28	40	147	534
Frozen fruits (mil. lb.)	1,136	1,338	1,244	1,107	1,017	1,011	1,120	1,300	1,303	1,238
Frozen conc.orange juice (mil. single-strength gallons)	589	644	776	769	742	802	832	752	595	549

-- = Not available. 1. Year shown is when harvest concluded. 2. Fresh per capita consumption. 3. Calendar year. 4. Fresh use. 5. U.S. equivalent on-tree returns. *Information contact: Susan Pollack (202) 694-5251*

**Table 21—Vegetables**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Production <sup>1</sup>										
Total vegetables (1,000 cwt)	562,938	565,754	689,070	688,824	782,505	747,988	762,952	751,739	726,310	829,731
Fresh (1,000 cwt) <sup>2,4</sup>	254,039	242,733	389,597	387,330	412,880	393,398	409,317	427,183	416,785	448,939
Processed (tons) <sup>3,4</sup>	15,444,970	16,151,030	14,973,630	15,074,707	18,481,238	17,729,497	17,681,732	16,227,819	15,476,230	19,039,620
M. shrooms (1,000 lbs) <sup>5</sup>	749,151	746,832	776,357	750,799	782,340	777,870	776,677	808,678	847,760	854,394
Potatoes (1,000 cwt)	402,110	417,622	425,367	430,349	469,425	445,099	499,254	467,091	475,771	478,109
Sweet potatoes (1,000 cwt)	12,594	11,203	12,005	11,027	13,380	12,821	13,216	13,327	12,382	12,234
Dry edible beans (1,000 cwt)	32,379	33,765	22,615	21,862	28,950	30,689	27,912	29,370	30,418	33,230
	1999				2000					
	Sep	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Shipments (1,000 cwt)										
Fresh	18,852	19,965	25,730	28,425	24,169	32,102	37,167	19,317	21,877	15,097
Iceberg lettuce	3,450	2,889	3,776	3,904	2,859	3,388	4,380	3,228	3,930	3,072
Tomatoes, all	3,245	3,642	4,463	4,553	3,845	4,020	4,272	2,497	3,095	2,473
Dry-bulb onions	4,026	3,232	3,910	3,895	3,364	3,707	3,809	3,140	4,314	3,858
Others <sup>6</sup>	8,131	10,202	13,581	16,073	14,101	20,987	24,706	10,452	10,538	5,694
Potatoes, all	11,719	12,201	17,170	19,972	20,460	16,892	15,085	9,854	12,563	11,199
Sweet potatoes	250	205	349	311	337	183	228	145	187	272

-- = Not available. 1. Calendar year except mushrooms. 2. Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes through 1991. 3. Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, and cauliflower. 4. Data after 1991 not comparable to previous years because commodity estimates reinstated in 1992 are included. 5. Fresh and processing agaricus mushrooms only. Excludes specialty varieties. Crop year July 1- June 30. 6. Includes snap beans, broccoli, cabbage, cauliflower, celery, sweet corn, cucumbers, eggplant, bell peppers, honeydews, and watermelons.

*Information contact: Gary Lucier (202) 694-5253*

**Table 22—Other Commodities**

	Annual			1999				2000		
	1997	1998	1999	I	II	III	IV	I	II	III
Sugar										
Production <sup>1</sup>	7,418	7,891	9,083	2,636	1,031	749	4,667	2,681	922	--
Deliveries <sup>1</sup>	9,755	9,851	10,167	2,271	2,594	2,693	2,609	2,348	2,513	--
Stocks, ending <sup>1</sup>	3,377	3,423	3,855	4,219	3,184	1,639	3,855	4,551	3,498	--
Coffee										
Composite green price <sup>2</sup>										
N.Y. (¢/lb.)	146.49	114.43	88.49	94.37	90.41	77.40	91.79	85.66	75.78	66.73
	Annual			1999				2000		
	1997	1998	1999	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Tobacco										
Avg. price to grower <sup>3</sup>										
Flue-cured (\$/lb.)	1.73	1.76	1.7	--	1.82	1.8	--	--	--	--
Burley (\$/lb.)	1.91	1.90	1.9	1.63	--	1.90	1.91	1.90	1.9	1.8
Domestic taxable removals										
Cigarettes (bil.)	471.4	457.9	432.6	34.9	38.8	37.6	34.0	--	--	--
Large cigars (mil.) <sup>4</sup>	3,552	3,721	3,844.0	332.7	315.6	334.7	320.0	--	--	--

-- = Not available. 1. 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2. Net imports of green and processed coffee. 3. Crop year July-June for flue-cured, October-September for burley. 4. Includes imports of large cigars. *Information contacts: sugar and coffee, Fannye Jolly (202) 694-5249; tobacco, Tom Capehart (202) 694-5245*

## World Agriculture

**Table 23—World Supply & Utilization of Major Crops, Livestock & Products**

	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00 F	2000/01 F
<i>Million units</i>										
<b>Wheat</b>										
Area (hectares)	222.5	222.9	222.0	214.5	219.2	230.4	227.8	224.7	216.4	214.5
Production (metric tons)	542.9	562.4	558.7	524.1	538.5	582.8	609.5	588.4	585.9	579.9
Exports (metric tons) <sup>1</sup>	111.2	113.0	101.6	101.4	99.5	103.7	103.8	102.6	108.1	105.1
Consumption (metric tons) <sup>2</sup>	555.5	550.3	561.6	547.5	548.8	577.3	584.3	590.8	594.1	596.7
Ending stocks (metric tons) <sup>3</sup>	132.5	144.5	141.6	118.2	107.9	113.5	138.7	136.4	128.2	111.4
<b>Coarse grains</b>										
Area (hectares)	322.8	326.0	318.7	324.1	313.8	322.8	311.2	308.0	302.7	330.7
Production (metric tons)	810.7	871.8	798.9	871.2	802.8	908.5	884.9	889.8	876.0	863.0
Exports (metric tons) <sup>1</sup>	95.9	92.8	85.8	98.0	87.8	94.1	85.7	96.7	103.0	100.4
Consumption (metric tons) <sup>2</sup>	810.1	843.4	838.7	858.5	839.2	872.8	873.3	867.3	881.0	887.3
Ending stocks (metric tons) <sup>3</sup>	135.8	164.1	124.3	137.0	100.6	136.3	147.9	170.4	165.5	141.2
<b>Rice, milled</b>										
Area (hectares)	147.5	146.4	144.9	147.4	148.1	149.8	151.2	152.3	153.9	151.9
Production (metric tons)	354.7	355.7	355.4	364.5	371.4	380.4	386.8	394.0	402.5	397.3
Exports (metric tons) <sup>1</sup>	14.3	15.0	16.3	20.8	19.7	18.8	27.3	25.1	22.4	24.6
Consumption (metric tons) <sup>2</sup>	356.7	357.7	358.2	366.6	371.4	379.6	383.3	388.7	399.7	401.4
Ending stocks (metric tons) <sup>3</sup>	57.2	55.2	52.5	50.4	50.4	51.2	54.7	60.0	62.7	58.6
<b>Total grains</b>										
Area (hectares)	692.8	695.3	685.6	686.0	681.1	703.0	690.2	685.0	673.0	697.1
Production (metric tons)	1,708.3	1,789.9	1,713.0	1,759.8	1,712.7	1,871.7	1,881.2	1,872.2	1,864.4	1,840.2
Exports (metric tons) <sup>1</sup>	221.4	220.8	203.7	220.2	207.0	216.6	216.8	224.4	233.5	230.1
Consumption (metric tons) <sup>2</sup>	1,722.3	1,751.4	1,758.5	1,772.6	1,759.4	1,829.7	1,840.9	1,846.8	1,874.8	1,885.4
Ending stocks (metric tons) <sup>3</sup>	325.5	363.8	318.4	305.6	258.9	301.0	341.3	366.8	356.4	311.2
<b>Oilseeds</b>										
Crush (metric tons)	185.1	184.4	190.1	208.1	217.5	217.7	225.9	240.8	248.4	250.2
Production (metric tons)	224.3	227.5	229.4	261.9	258.9	261.4	286.5	294.1	299.6	303.6
Exports (metric tons)	37.6	38.2	38.7	44.1	44.3	49.6	54.0	54.6	64.3	60.3
Ending stocks (metric tons)	21.9	23.6	20.3	27.2	22.2	18.0	27.9	30.5	28.9	27.9
<b>Meals</b>										
Production (metric tons)	125.2	125.2	131.7	142.1	147.3	148.4	153.5	164.7	169.9	172.1
Exports (metric tons)	42.2	40.8	44.9	46.7	49.8	50.7	51.9	53.9	55.0	55.3
<b>Oils</b>										
Production (metric tons)	60.6	61.1	63.7	69.6	73.1	74.0	75.0	80.7	84.8	86.0
Exports (metric tons)	21.3	21.3	24.3	27.1	26.0	28.2	29.7	31.4	32.2	32.7
<b>Cotton</b>										
Area (hectares)	34.8	32.6	30.7	32.2	35.9	33.8	33.7	33.0	32.3	32.5
Production (bales)	95.8	82.5	77.1	86.0	93.1	89.6	91.6	84.7	87.0	86.9
Exports (bales)	28.5	25.5	26.8	28.4	27.8	26.9	26.7	23.7	27.3	26.7
Consumption (bales)	86.1	85.9	85.4	84.7	86.0	88.0	87.2	85.1	91.2	92.7
Ending stocks (bales)	37.4	34.7	26.8	29.8	36.6	40.1	43.7	45.1	40.5	35.0
	1991	1992	1993	1994	1995	1996	1997	1998	1999 F	2000 F
<b>Red meat<sup>4</sup></b>										
Production (metric tons)	117.7	117.3	119.3	124.6	129.5	123.6	129.5	134.5	136.4	137.8
Consumption (metric tons)	116.1	115.7	118.3	123.6	127.7	120.7	126.7	131.7	134.2	135.6
Exports (metric tons) <sup>1</sup>	7.5	7.4	7.4	8.1	8.2	8.5	9.0	8.9	9.6	9.6
<b>Poultry<sup>4</sup></b>										
Production (metric tons)	39.6	38.0	40.5	43.2	47.5	50.4	52.7	53.5	55.9	57.9
Consumption (metric tons)	38.4	37.0	39.4	42.0	47.0	49.7	51.9	52.5	55.0	57.1
Exports (metric tons) <sup>1</sup>	2.8	2.4	2.8	3.6	4.5	5.1	5.6	5.7	6.0	6.4
<b>Dairy</b>										
Milk production (metric tons) <sup>5</sup>	377.6	378.4	377.6	378.4	380.7	379.8	380.8	383.1	385.8	390.5

-- = Not available. F = forecast. 1. Excludes intra-EU trade but includes intra-FSU trade. 2. Where stocks data are not available, consumption includes stock changes. 3. Stocks data are based on differing marketing years and do not represent levels at a given date. Data not available for all countries.

4. Calendar year data. 1990 data correspond with 1989/90, etc. 5. Data prior to 1989 no longer comparable.

Information contacts: Crops, Ed Allen (202) 694-5288; red meat and poultry, Leland Southard (202) 694-5187; dairy, LaVerne Williams (202) 694-5190



## U.S. Agricultural Trade

**Table 24—Prices of Principal U.S. Agricultural Trade Products**

	Annual		1999		2000					
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
<b>Export commodities</b>										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	4.35	3.44	3.04	3.08	2.92	3.03	3.15	3.12	3.05	3.31
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	2.98	2.59	2.30	2.21	2.44	2.45	2.12	1.91	1.91	2.05
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	2.89	2.54	2.15	2.02	2.33	2.36	2.01	1.72	1.87	2.01
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	7.94	6.37	5.02	5.18	5.51	5.65	5.37	5.02	4.93	5.19
Soybean oil, Decatur (¢/lb.)	23.33	25.78	17.51	16.79	17.52	16.75	15.65	14.70	14.34	14.24
Soybean meal, Decatur (\$/ton)	266.70	162.74	141.52	150.64	177.53	189.34	177.45	163.38	157.48	174.60
Cotton, 7-market avg. spot (¢/lb.)	69.62	67.04	52.30	48.39	53.76	58.31	54.97	55.12	59.33	60.62
Tobacco, avg. price at auction (¢/lb.)	182.74	179.77	177.82	175.03	156.98	--	--	--	165.03	182.05
Rice, f.o.b., mill, Houston (\$/cwt)	20.88	18.95	16.99	16.00	14.85	14.48	14.38	14.53	14.50	14.56
Inedible tallow, Chicago (¢/lb.)	20.75	17.67	12.99	14.38	9.50	10.00	10.00	9.00	9.00	9.35
<b>Import commodities</b>										
Coffee, N.Y. spot (\$/lb.)	2.05	1.39	1.05	0.86	0.99	0.99	0.90	0.93	0.80	0.82
Rubber, N.Y. spot (¢/lb.)	55.40	40.57	36.66	34.32	37.80	37.76	37.07	36.65	37.82	37.35
Cocoa beans, N.Y. (\$/lb.)	0.69	0.72	0.47	0.43	0.36	0.37	0.38	0.38	0.35	0.36

-- = Not available. Information contacts: Jenny Gonzales (202) 694-5296, Mae Dean Johnson (202) 694-5299.

**Table 25—Trade Balance**

	Fiscal Year			1999	2000					
	1999	2000 P	2001 F	Aug	Mar	Apr	May	Jun	Jul	Aug
\$ million										
Exports										
Agricultural	49,084	50,500	51,500	3,946	4,666	3,916	4,020	4,056	3,832	4,259
Nonagricultural	586,670	--	--	49,351	58,202	53,684	54,237	58,185	50,743	57,735
Total <sup>1</sup>	635,754	--	--	53,297	62,868	57,600	58,257	62,241	54,575	61,994
Imports										
Agricultural	37,312	39,000	39,500	2,974	3,666	3,365	3,502	3,299	2,991	3,166
Nonagricultural	938,790	--	--	85,739	98,952	90,412	96,444	99,828	97,043	103,988
Total <sup>2</sup>	976,258	--	--	88,713	102,618	93,777	99,946	103,127	100,034	107,154
Trade Balance										
Agricultural	11,634	11,500	12,000	972	1,000	551	518	757	841	1,093
Nonagricultural	-352,138	--	--	-36,388	-40,750	-36,728	-42,207	-41,643	-46,300	-46,253
Total	-340,504	--	--	-35,416	-39,750	-36,177	-41,689	-40,886	-45,459	-45,160

P = Projected. F = Forecast. -- = Not available. Fiscal year (Oct. 1-Sep. 30). 1. Domestic exports including Department of Defense shipments (f.a.s. value).

2. Imports for consumption (customs value). Information contact: Mary Fant (202) 694-5272

**Table 26—Indexes of Real Trade-Weighted Dollar Exchange Rates<sup>1</sup>**

	Annual			1999		2000				
	1997	1998	1999	Aug	Mar	Apr	May	Jun	Jul	Aug
<i>1995 = 100</i>										
Total U.S. Trade	105.5	112.4	110.9	114.5	115.1	116.5	118.3	117.5	118.1	117.8
<b>U.S. markets</b>										
All agricultural trade	103.7	111.4	109.2	117.7	116.4	117.4	118.8	118.3	119.3	118.7
Bulk commodities	107.1	115.9	112.7	116.7	117.0	117.8	119.3	119.1	120.1	119.5
Corn	110.8	121.9	115.8	115.8	114.9	115.5	116.4	116.7	117.9	116.7
Cotton	99.3	112.6	110.1	113.4	114.2	115.2	116.9	117.4	118.2	116.7
Rice	106.2	109.4	108.6	112.6	114.3	115.7	116.7	116.2	117.2	116.9
Soybeans	111.9	121.2	118.1	119.3	122.5	123.7	126.4	125.1	126.0	126.6
Tobacco, raw	117.4	125.5	124.2	124.7	129.7	131.1	133.8	131.6	134.1	135.1
Wheat	102.0	107.1	110.7	113.5	115.2	115.8	116.5	116.7	117.8	117.4
High-value products	106.6	113.0	108.0	118.4	115.9	117.0	118.4	117.7	118.7	118.0
Processed intermediates	106.3	113.2	110.5	115.4	115.9	117.0	118.9	118.1	118.8	118.8
Soymeal	99.1	104.3	103.5	108.1	108.6	109.6	110.8	110.6	111.5	111.2
Soyoil	88.1	87.9	96.2	100.0	103.2	103.8	104.1	104.5	104.6	104.8
Produce and horticulture	109.6	116.8	114.5	117.5	118.3	119.8	121.6	120.4	121.7	121.3
Fruits	109.2	118.9	114.3	116.8	116.0	117.1	118.2	118.0	119.4	118.1
Vegetables	107.3	115.1	112.5	113.9	111.8	113.7	114.5	113.5	114.5	112.8
High-value processed	105.8	111.5	103.8	121.3	115.1	116.0	116.8	116.5	117.6	116.2
Fruit juices	112.6	121.0	117.3	120.2	119.9	121.5	123.0	121.5	123.3	122.5
Poultry	79.6	74.0	61.9	157.2	118.1	118.3	117.9	117.4	116.3	115.2
Red meats	120.5	131.6	118.9	122.7	118.7	119.5	120.0	119.8	122.7	120.0
<b>U.S. competitors</b>										
All agricultural trade	108.3	114.2	115.5	123.3	130.1	132.0	135.8	132.7	134.1	136.5
Bulk commodities	101.5	110.1	109.7	132.0	129.6	131.1	133.5	131.9	133.1	133.5
Corn	108.7	111.3	113.9	121.5	129.3	131.0	134.0	131.0	132.2	134.9
Cotton	105.0	116.0	115.8	131.2	129.8	131.2	133.5	130.8	131.9	134.3
Rice	108.9	123.6	119.3	122.3	125.3	126.0	128.8	128.0	131.3	131.8
Soybeans	93.6	91.7	93.2	135.3	131.6	132.5	135.1	134.6	133.7	132.5
Tobacco, raw	100.3	105.1	104.6	126.9	120.0	120.2	120.7	118.7	118.1	123.1
Wheat	109.5	114.2	116.4	119.4	124.8	127.2	130.4	127.0	128.6	130.3
High-value products	109.6	115.3	116.5	126.4	133.5	135.6	139.6	135.9	137.3	140.1
Processed intermediates	107.2	114.5	115.6	128.4	133.1	135.0	138.4	135.6	136.9	138.8
Soymeal	97.1	95.1	96.1	134.4	133.0	134.0	137.4	136.2	135.5	136.7
Soyoil	99.0	98.3	99.4	125.4	126.2	127.0	130.3	129.3	129.3	130.4
Produce and horticulture	108.3	113.3	115.0	120.7	128.5	130.0	133.6	130.7	131.7	133.7
Fruits	110.0	125.1	122.3	124.7	130.5	131.4	134.3	132.8	135.5	136.3
Vegetables	100.6	102.2	105.0	110.7	117.7	119.1	122.1	119.8	120.4	122.6
High-value processed	111.4	116.4	117.5	126.8	135.2	137.6	142.0	137.7	139.3	142.7
Fruit juices	111.4	117.1	118.1	123.1	131.0	133.4	136.7	133.8	135.5	137.2
Poultry	104.0	106.9	107.7	123.5	129.4	131.4	135.0	132.2	133.7	136.2
Red meats	109.7	114.5	116.2	123.6	131.7	133.8	138.3	134.3	136.1	139.3
<b>U.S. suppliers</b>										
All agricultural trade	101.2	109.6	109.3	114.3	116.0	117.5	119.9	119.3	119.5	119.1
High-value products	101.3	107.2	107.9	112.3	114.5	116.0	118.3	117.4	117.4	117.5
Processed intermediates	102.5	110.3	110.3	115.5	117.5	119.3	121.5	120.2	120.7	121.0
Grains and feeds	105.1	112.5	112.9	113.7	114.3	116.4	118.2	116.6	117.5	117.0
Vegetable oils	106.4	122.4	119.3	121.7	125.2	127.0	129.9	128.4	130.0	130.2
Produce and horticulture	93.7	97.6	99.1	101.3	101.6	102.1	103.5	104.7	103.2	101.8
Fruits	91.7	95.7	96.0	97.0	94.8	95.9	97.3	99.6	98.5	95.7
Vegetables	86.3	88.7	84.0	82.9	80.0	81.1	82.0	84.1	80.7	79.5
High-value processed	104.3	110.0	110.9	115.7	119.1	121.1	123.9	122.0	122.6	123.5
Cocoa and products	105.5	117.8	119.7	125.5	133.7	135.5	137.3	135.9	137.0	136.0
Coffee and products	93.1	97.0	100.0	113.8	112.5	112.9	115.1	116.2	115.2	114.4
Dairy products	106.5	111.7	112.0	123.8	130.9	133.7	138.2	134.3	136.2	140.2
Fruit juices	99.1	100.9	101.5	123.7	123.5	125.1	127.6	127.4	127.3	127.0
Meats	95.9	102.1	105.4	107.4	108.4	109.0	109.9	109.8	109.9	109.8

Real indexes adjust nominal exchange rates for relative rates of inflation among countries. A higher value means the dollar has appreciated.

The weights used for "total U.S. trade" index are based on U.S. total merchandise exports to the largest 85 trading partners. Weights are based on relative importance of major U.S. customers, competitors in world markets, and suppliers to the U.S. Indexes are subject to revision for up to 1 year due to delayed reporting by some countries. High-value products are total agricultural products minus bulk commodities.

Source: Nominal exchange rates are obtained from the IMF International Financial Statistics. Exchange rates for the EU-11 are obtained from the Board of Governors of the Federal Reserve System. Full historical series are available back to January 1970 at

<http://usda.mannlib.cornell.edu/data-sets/international/88021/>

Information contact: Mathew Shane (202) 694-5282.

1. A major revision to the weighting scheme and commodity definitions was completed in May 2000.

**Table 27—U.S. Agricultural Exports & Imports**

	Fiscal Year			Aug		Fiscal Year			Aug	
	1999	2000 E	2001 F	1999	2000	1999	2000 E	2001 F	1999	2000
	1,000 units					\$ million				
Exports										
Animals, live	--	--	--	--	--	476	--	--	34	41
Meats and preps., excl. poultry (mt) <sup>1</sup>	2,061	1,900	1,800	185	218	4,460	5,000	5,100	403	473
Dairy products	--	--	--	--	--	897	1,000	900	73	83
Poultry meats (mt)	2,377	2,800	2,700	214	248	1,743	2,000	1,900	156	173
Fats, oils, and greases (mt)	1,387	1,200	1,200	98	113	544	--	--	35	33
Hides and skins, incl. furskins	--	--	--	--	--	1,108	1,200	1,200	99	145
Cattle hides, whole (no.)	17,845	--	--	1,674	2,133	844	--	--	80	121
Mink pelts (no.)	4,172	--	--	216	243	98	--	--	5	6
Grains and feeds (mt) <sup>2</sup>	104,576	--	--	9,329	10,002	14,272	13,600	13,600	1,196	1,260
Wheat (mt) <sup>3</sup>	28,806	27,000	29,000	2,898	2,842	3,648	3,500	3,700	355	330
Wheat flour (mt)	958	1,000	1,000	72	32	177	--	--	12	7
Rice (mt)	3,076	3,300	3,200	168	253	1,010	900	800	56	64
Feed grains, incl. products (mt) <sup>4</sup>	58,398	53,700	60,200	5,195	5,480	5,821	5,200	5,200	489	479
Feeds and fodders (mt)	11,800	12,800	11,600	867	1,254	2,252	2,400	2,200	170	249
Other grain products (mt)	1,538	--	--	129	141	1,363	--	--	113	131
Fruits, nuts, and preps. (mt)	3,439	--	--	268	341	3,805	4,200	4,300	305	351
Fruit juices, incl.										
froz. (1,000 hectoliters)	12,317	--	--	1,152	1,123	735	--	--	68	70
Vegetables and preps.	--	--	--	--	--	4,245	2,900	3,000	319	352
Tobacco, unmanufactured (mt)	205	200	200	8	14	1,376	1,300	1,300	64	84
Cotton, excl. linters (mt) <sup>5</sup>	884	1,500	1,800	55	94	1,309	1,800	2,600	74	124
Seeds (mt)	579	--	--	41	38	800	800	900	39	43
Sugar, cane or beet (mt)	158	--	--	11	6	56	--	--	4	2
Oilseeds and products (mt)	33,597	36,300	37,800	2,125	2,265	8,638	8,700	8,700	674	560
Oilseeds (mt)	--	--	--	--	--	--	--	--	--	--
Soybeans (mt)	22,974	26,700	27,500	1,503	1,591	4,748	5,200	5,000	285	305
Protein meal (mt)	6,726	--	--	383	411	1,101	--	--	61	77
Vegetable oils (mt)	2,669	--	--	167	146	1,846	--	--	114	94
Essential oils (mt)	47	--	--	4	6	507	--	--	43	64
Other	--	--	--	--	--	4,112	--	--	358	398
Total	--	--	--	--	--	49,084	50,500	51,500	3,946	4,259
Imports										
Animals, live	--	--	--	--	--	1,411	1,800	1,900	111	121
Meats and preps., excl. poultry (mt)	1,403	1,600	1,600	121	150	3,108	3,700	3,800	275	349
Beef and veal (mt)	943	--	--	84	104	2,047	--	--	189	234
Pork (mt)	337	--	--	29	34	721	--	--	64	86
Dairy products	--	--	--	--	--	1,572	1,700	1,800	132	150
Poultry and products	--	--	--	--	--	201	--	--	18	25
Fats, oils, and greases (mt)	85	--	--	11	7	56	--	--	6	6
Hides and skins, incl. furskins (mt)	--	--	--	--	--	146	--	--	9	9
Wool, unmanufactured (mt)	29	--	--	2	2	75	--	--	4	5
Grains and feeds	--	--	--	--	--	2,943	3,000	3,000	260	252
Fruits, nuts, and preps.,										
excl. juices (mt) <sup>6</sup>	8,171	8,500	8,600	591	568	4,619	5,400	5,500	319	300
Bananas and plantains (mt)	4,418	4,500	4,600	402	358	1,212	1,100	1,200	107	88
Fruit juices (1,000 hectoliters)	31,655	33,400	34,000	2,843	2,232	772	--	--	63	55
Vegetables and preps.	--	--	--	--	--	4,527	4,600	4,700	291	323
Tobacco, unmanufactured (mt)	217	200	200	18	20	742	600	600	55	73
Cotton, unmanufactured (mt)	144	--	--	9	2	150	--	--	9	1
Seeds (mt)	357	--	--	27	20	457	--	--	25	29
Nursery stock and cut flowers	--	--	--	--	--	1,076	1,200	1,200	100	97
Sugar, cane or beet (mt)	1,692	--	--	143	201	606	--	--	56	70
Oilseeds and products (mt)	3,767	3,900	3,800	309	353	1,899	1,900	1,800	148	141
Oilseeds (mt)	1,000	--	--	102	110	326	--	--	23	22
Protein meal (mt)	1,131	--	--	72	96	147	--	--	10	12
Vegetable oils (mt)	1,637	--	--	135	147	1,427	--	--	115	107
Beverages, excl. fruit										
juices (1,000 hectoliters)	--	--	--	--	--	4,258	--	--	391	466
Coffee, tea, cocoa, spices (mt)	2,520	--	--	202	212	5,306	--	--	403	389
Coffee, incl. products (mt)	1,294	1,400	1,400	107	109	2,967	2,900	3,000	226	205
Cocoa beans and products (mt)	865	1,100	1,100	62	70	1,531	1,500	1,500	107	102
Rubber and allied gums (mt)	1,148	1,300	1,300	115	100	739	900	900	69	66
Other	--	--	--	--	--	2,648	--	--	229	237
Total	--	--	--	--	--	37,312	39,000	39,500	2,974	3,166

E = Estimate. F = Forecast. -- = Not available. Projections are fiscal years (Oct.1 through Sept. 30) and are from Outlook for U.S. Agricultural Exports. 1998 and 1999 data are from *Foreign Agricultural Trade of the U.S.* 1. Projection includes beef, pork, and variety meat. 2. Projection includes pulses. 3. Value projection includes wheat flour. 4. Projection excludes grain products. 5. Projection includes linters. 6. Value projection includes juice.

Information Contact: Mary Fant (202) 694-5272

**Table 28—U.S. Agricultural Exports by Region**

	Fiscal year			1999			2000			
	1998	1999	2000 E	Jul	Feb	Mar	Apr	May	Jun	Jul
	\$ millions									
<b>Region &amp; country</b>										
<b>Western Europe</b>	8,859	7,531	6,400	419	624	577	481	438	423	391
European Union <sup>1</sup>	8,522	6,960	5,900	383	596	557	430	413	408	372
Belgium-Luxembourg	666	602	--	32	43	44	32	41	37	31
France	536	380	--	24	34	21	23	24	18	30
Germany	1,294	1,056	--	56	84	95	94	56	40	48
Italy	729	574	--	20	49	53	48	37	53	36
Netherlands	1,792	1,585	--	70	163	145	83	78	68	81
United Kingdom	1,300	1,123	--	90	92	79	72	87	76	82
Portugal	186	131	--	5	22	8	6	11	4	7
Spain, incl. Canary Islands	1,132	782	--	37	65	46	28	28	42	20
Other Western Europe	336	570	500	36	28	21	51	25	15	19
Switzerland	236	456	--	29	22	15	46	16	9	10
<b>Eastern Europe</b>	320	190	200	15	18	17	10	12	17	12
Poland	139	73	--	6	3	4	3	3	5	7
Former Yugoslavia	97	47	--	4	11	7	3	5	8	2
Romania	31	18	--	0	0	1	1	1	1	1
<b>Newly Independent States</b>	1,456	816	1,400	129	221	70	56	71	56	39
Russia	1,103	468	1,000	68	189	53	45	59	45	27
<b>Asia<sup>2</sup></b>	21,992	20,447	19,900	1,547	1,858	2,203	1,762	1,832	1,857	1,655
West Asia (Mideast)	2,286	1,979	2,200	196	209	187	175	171	184	175
Turkey	658	448	700	46	62	55	80	48	51	65
Iraq	131	9	--	--	0	--	--	--	--	--
Israel, incl. Gaza and W. Bank	389	417	--	51	59	31	29	45	47	30
Saudi Arabia	535	468	400	31	44	30	32	35	38	36
South Asia	626	500	400	29	31	29	27	36	34	28
Bangladesh	114	165	--	8	5	9	6	6	4	12
India	163	190	--	12	18	14	17	11	19	10
Pakistan	275	89	--	4	1	4	3	9	5	5
China	1,514	1,012	1,500	39	110	261	97	80	141	121
Japan	9,469	8,940	9,500	636	846	906	754	879	817	688
Southeast Asia	2,288	2,213	2,600	173	205	258	209	169	193	198
Indonesia	529	498	600	36	46	69	61	28	44	79
Philippines	751	734	900	64	67	84	78	73	73	56
Other East Asia	5,808	5,803	5,900	473	456	562	500	499	488	446
Korea, Rep.	2,258	2,483	2,600	228	219	240	209	216	203	201
Hong Kong	1,568	1,264	1,200	88	92	106	96	96	118	88
Taiwan	1,975	2,046	2,100	156	144	216	195	187	167	156
<b>Africa</b>	2,174	2,160	1,900	180	176	178	115	126	206	202
North Africa	1,475	1,468	1,300	125	136	93	66	82	136	132
Morocco	139	162	--	16	23	10	6	11	11	8
Algeria	281	223	--	22	13	24	5	22	27	27
Egypt	939	1,001	900	81	95	50	48	40	97	91
Sub-Sahara	699	692	600	55	40	86	49	44	70	70
Nigeria	140	176	--	9	11	8	13	12	12	21
S. Africa	193	165	--	17	8	13	6	11	12	15
<b>Latin America and Caribbean</b>	11,362	10,502	10,300	805	858	916	829	836	770	874
Brazil	566	369	200	22	22	41	22	21	18	16
Caribbean Islands	1,487	1,453	--	109	120	121	112	108	121	112
Central America	1,137	1,209	--	79	85	93	92	86	80	97
Colombia	606	467	--	34	25	40	32	38	42	41
Mexico	5,956	5,675	6,200	457	501	551	481	517	439	532
Peru	314	347	--	31	10	16	19	5	13	19
Venezuela	516	458	400	30	47	31	37	32	27	30
<b>Canada</b>	7,022	6,957	7,600	586	593	658	614	655	672	604
<b>Oceania</b>	545	499	500	37	34	47	36	32	39	39
<b>Total</b>	53,730	49,102	50,500	3,718	4,382	4,668	3,917	4,022	4,058	3,834

E = Estimate. -- = Not available. Based on fiscal year beginning October 1 and ending September 30. 1. Austria, Finland, and Sweden are included in the European Union. 2. Asia forecasts exclude West Asia (Mideast). NOTE: Adjusted for transshipments through Canada for 1998 and 1999 through December 1999, but transshipments are not distributed by country as previously for 2000. *Information contact: Mary Fant (202) 694-5272*



## Farm Income

**Table 29—Value Added to the U.S. Economy by the Agricultural Sector**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	\$ billion									
Final crop output	81.0	88.9	82.4	100.3	95.7	115.6	112.3	102.1	93.1	95.5
Food grains	7.3	8.5	8.2	9.5	10.4	10.8	10.4	8.9	7.3	6.8
Feed crops	19.3	20.1	20.2	20.3	24.5	27.2	27.0	22.7	19.8	20.7
Cotton	5.2	5.2	5.2	6.7	6.9	7.0	6.3	6.1	4.7	4.9
Oil crops	12.7	13.3	13.2	14.7	15.5	16.4	19.8	17.5	13.6	14.3
Tobacco	2.9	3.0	2.9	2.7	2.5	2.8	2.9	2.8	2.3	1.8
Fruits and tree nuts	9.9	10.1	10.3	10.3	11.1	11.9	13.1	12.2	13.0	11.5
Vegetables	11.6	11.8	13.7	14.0	15.0	14.4	14.7	15.1	15.2	15.9
All other crops	13.1	13.7	13.7	14.7	15.0	15.8	16.9	17.1	17.4	17.9
Home consumption	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Value of inventory adjustment <sup>1</sup>	-1.2	3.2	-5.3	7.2	-5.3	9.1	1.1	-0.5	-0.2	1.2
Final animal output	87.3	87.1	92.0	89.7	87.7	92.0	96.5	94.2	95.1	99.8
Meat animals	50.1	47.7	51.0	46.7	44.9	44.2	49.7	43.3	45.6	51.9
Dairy products	18.0	19.7	19.3	20.0	19.9	22.8	20.9	24.1	23.2	21.3
Poultry and eggs	15.2	15.5	17.4	18.5	19.1	22.5	22.3	22.9	22.9	23.5
Miscellaneous livestock	2.5	2.6	2.9	3.1	3.3	3.4	3.6	3.7	3.7	3.6
Home consumption	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4
Value of inventory adjustment <sup>1</sup>	1.0	1.0	1.1	1.1	0.2	-1.1	-0.4	-0.3	-0.7	-0.9
Services and forestry	15.4	15.2	17.0	18.1	19.9	20.8	22.1	24.7	26.7	26.9
Machine hire and customwork	1.8	1.8	1.9	2.1	1.9	2.2	2.4	2.2	2.0	2.2
Forest products sold	1.8	2.2	2.5	2.6	2.8	2.6	2.8	3.0	2.9	2.9
Other farm income	4.7	4.1	4.6	4.3	5.8	6.2	6.9	8.7	10.8	10.8
Gross imputed rental value of farm dwellings	7.2	7.2	8.1	9.0	9.4	9.9	10.1	10.8	10.9	11.0
<b>Final agricultural sector output</b> <sup>2</sup>	<b>183.7</b>	<b>191.3</b>	<b>191.3</b>	<b>208.0</b>	<b>203.4</b>	<b>228.4</b>	<b>230.9</b>	<b>221.0</b>	<b>214.9</b>	<b>222.2</b>
<i>Minus</i> Intermediate consumption outlays:	94.6	93.4	100.7	104.9	109.7	113.2	121.0	118.5	120.8	126.7
Farm origin	38.6	38.6	41.3	41.3	41.8	42.7	46.8	44.8	45.5	47.2
Feed purchased	19.3	20.1	21.4	22.6	23.8	25.2	26.3	25.0	24.5	24.8
Livestock and poultry purchased	14.1	13.6	14.7	13.3	12.5	11.3	13.8	12.5	13.8	15.0
Seed purchased	5.1	4.9	5.2	5.4	5.5	6.2	6.7	7.2	7.2	7.4
Manufactured inputs	23.2	22.7	23.1	24.4	26.1	28.6	29.2	28.2	27.3	30.2
Fertilizers and lime	8.7	8.3	8.4	9.2	10.0	10.9	10.9	10.6	9.9	10.3
Pesticides	6.3	6.5	6.7	7.2	7.7	8.5	9.0	9.0	8.6	8.7
Petroleum fuel and oils	5.6	5.3	5.4	5.3	5.4	6.0	6.2	5.6	5.8	8.2
Electricity	2.6	2.6	2.7	2.7	3.0	3.2	3.0	2.9	3.0	3.1
Other intermediate expenses	32.8	32.1	36.2	39.2	41.7	41.9	44.9	45.6	48.0	49.3
Repair and maintenance of capital items	8.6	8.5	9.2	9.1	9.5	10.3	10.4	10.4	10.5	10.7
Machine hire and customwork	3.5	3.8	4.4	4.8	4.8	4.7	4.9	5.4	5.3	5.5
Marketing, storage, and transportation	4.7	4.5	5.6	6.8	7.2	6.9	7.1	6.9	7.3	7.8
Contract labor	1.6	1.7	1.8	1.8	2.0	2.1	2.6	2.4	2.6	2.7
Miscellaneous expenses	14.3	13.6	15.2	16.7	18.3	17.8	19.9	20.6	22.3	22.6
<i>Plus</i> Net government transactions:	2.1	2.7	6.9	1.1	0.2	0.2	0.2	4.8	13.1	15.7
+ Direct government payments	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	20.6	23.3
- Motor vehicle registration and licensing fees	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.4
- Property taxes	5.8	6.1	6.2	6.4	6.6	6.7	6.8	6.9	7.1	7.2
<b>Gross value added</b>	<b>91.2</b>	<b>100.5</b>	<b>97.5</b>	<b>104.3</b>	<b>93.9</b>	<b>115.4</b>	<b>110.1</b>	<b>107.3</b>	<b>107.2</b>	<b>111.1</b>
<i>Minus</i> Capital consumption	18.2	18.3	18.3	18.7	19.2	19.4	19.6	19.7	19.9	19.8
<b>Net value added</b> <sup>2</sup>	<b>73.0</b>	<b>82.2</b>	<b>79.2</b>	<b>85.6</b>	<b>74.7</b>	<b>96.0</b>	<b>90.6</b>	<b>87.5</b>	<b>87.3</b>	<b>91.3</b>
<i>Minus</i> Factor payments:	34.5	34.6	34.8	36.8	37.8	41.1	42.0	42.9	43.9	45.7
Employee compensation (total hired labor)	12.3	12.3	13.2	13.5	14.3	15.2	16.0	16.9	17.5	18.4
Net rent received by nonoperator landlords	10.1	11.2	10.9	11.8	10.9	12.9	12.8	12.7	12.9	13.3
Real estate and non-real estate interest	12.1	11.0	10.7	11.6	12.6	13.0	13.1	13.4	13.6	14.1
<b>Net farm income</b> <sup>2</sup>	<b>38.5</b>	<b>47.7</b>	<b>44.3</b>	<b>48.8</b>	<b>36.9</b>	<b>54.9</b>	<b>48.6</b>	<b>44.6</b>	<b>43.4</b>	<b>45.6</b>

Values in last two columns are preliminary or forecast. 1. A positive value of inventory change represents current-year production not sold by December 1. A negative value is an offset to production from prior years included in current-year sales. 2. Final sector output is the gross value of commodities and services produced within a year. Net value added is the sector's contribution to the National economy and is the sum of income from production earned by all factors of production. Net farm income is farm operators' share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development. Information contact: Roger Strickland: [rogers@ers.usda.gov](mailto:rogers@ers.usda.gov)  
To confirm that this table contains the current forecast, go to <http://www.ers.usda.gov/briefing/farmincome/fore/fore.htm>

**Table 30—Farm Income Statistics**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<i>\$ billion</i>										
<b>Cash income statement:</b>										
1. Cash receipts	167.9	171.3	177.9	181.1	188.0	199.1	207.6	196.6	188.6	194.5
Crops <sup>1</sup>	82.1	85.6	87.5	92.9	100.8	106.3	111.1	102.5	93.1	94.1
Livestock	85.8	85.7	90.4	88.2	87.1	92.8	96.5	94.1	95.5	100.3
2. Direct Government payments	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	20.6	23.3
3. Farm-related income <sup>2</sup>	8.3	8.0	9.0	9.0	10.5	10.9	12.0	13.9	15.8	15.9
4. Gross cash income (1+2+3)	184.4	188.5	200.3	198.1	205.8	217.4	227.1	222.6	225.0	233.6
5. Cash expenses <sup>3</sup>	134.1	133.5	141.2	147.4	153.2	159.8	168.6	167.2	170.4	178.3
6. Net cash income (4-5)	50.2	54.9	59.1	50.7	52.5	57.6	58.5	55.4	54.6	55.4
<b>Farm income statement:</b>										
7. Gross cash income (4)	184.4	188.5	200.3	198.1	205.8	217.4	227.1	222.6	225.0	233.6
8. Noncash income <sup>4</sup>	7.8	7.8	8.7	9.6	9.9	10.3	10.6	11.3	11.4	11.5
9. Value of inventory adjustment	-0.2	4.2	-4.2	8.3	-5.0	8.0	0.7	-0.7	-0.9	0.3
10. Gross farm income (7+8+9)	191.9	200.4	204.7	215.9	210.7	235.7	238.4	233.2	235.5	245.5
11. Total production expenses	153.4	152.8	160.4	167.1	173.8	180.8	189.8	188.6	192.1	199.8
12. Net farm income (10-11)	38.5	47.7	44.3	48.8	36.9	54.9	48.6	44.6	43.4	45.6

Values for last 2 years are preliminary or forecast. Numbers in parentheses indicate the combination of items required to calculate an item. Totals may not add due to rounding. 1. Includes commodities placed under CCC loans and profits made on loans redeemed. 2. Income from custom labor, machine hire, recreational activities, forest product sales, and other farm sources. 3. Excludes depreciation and perquisites to hired labor. Excludes farm operator dwellings. 4. Value of farm products consumed on farms where produced plus the imputed rental value of farm dwellings.

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To confirm that this table contains the current forecast, go to <http://www.ers.usda.gov/briefing/farmincome/fore/fore.htm>

**Table 31—Average Income to Farm Operator Households<sup>1</sup>**

	1992	1993	1994	1995	1996	1997	1998	1999	2000
<i>\$ per farm</i>									
Net cash farm business income <sup>2</sup>	11,320	11,248	11,389	11,218	13,502	12,676	14,357	13,194	--
Less depreciation <sup>3</sup>	5,187	6,219	6,466	6,795	6,906	6,578	7,409	7,027	--
Less wages paid to operator <sup>4</sup>	216	454	425	522	531	513	637	499	--
Less farmland rental income <sup>5</sup>	360	534	701	769	672	568	543	802	--
Less adjusted farm business income due to other household(s) <sup>6</sup>	961	872	815	649	1,094	*1,505	1,332	1,262	--
<i>\$ per farm operator household</i>									
Equals adjusted farm business income	4,596	3,168	2,981	2,484	4,300	3,513	4,436	3,603	--
Plus wages paid to operator	216	454	425	522	531	513	637	499	--
Plus net income from farmland rental <sup>7</sup>	360	--	--	1,053	1,178	945	868	1,312	--
Equals farm self-employment income	5,172	3,623	3,407	4,059	6,009	4,971	5,941	5,415	--
Plus other farm-related earnings <sup>8</sup>	2,008	1,192	970	661	1,898	1,234	1,165	944	--
Equals earnings of the operator household from farming activities	7,180	4,815	4,376	4,720	7,906	6,205	7,106	6,359	4,589
Plus earnings of the operator household from off-farm sources <sup>9</sup>	35,731	35,408	38,092	39,671	42,455	46,358	52,628	57,988	60,058
Equals average farm operator household income	42,911	40,223	42,469	44,392	50,361	52,562	59,734	64,347	64,645
<i>\$ per U.S. household</i>									
U.S. average household income <sup>10</sup>	38,840	41,428	43,133	44,938	47,123	49,692	51,855	--	--
<i>Percent</i>									
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	106.9	105.8	115.2	--	--
Average operator household earnings from farming activities as percent of average operator household income	16.7	12.0	10.3	10.6	15.7	11.8	11.9	10	--

-- = Not available. Values in last two columns are preliminary or forecast. 1. This table derives farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Bureau of the Census, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income. 2. A component of farm-sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives, and farms run by a hired manager. Includes income of farms organized as proprietorships, partnerships, and family corporations. 3. Consistent with the CPS definition of self-employed income, reported depreciation expenses are subtracted from net cash farm income. The ARMS collects data on farm business depreciation used for tax purposes. 4. Wages paid to the operator are excluded because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income. 5. Gross rental income is excluded because net rental income from farm operation is added below to income received by the household. 6. More than one household may have a claim on the income of a farm business. On average, 1.1 households share the income of a farm business. 7. Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business. In 1991 and 1992, gross rental income from the farm business was used because net rental income data were not collected. In 1993 and 1994, net rental income data were collected as part of off-farm income. 8. Wages paid to other operator household members by the farm business, and net income from a farm business other than the one surveyed. In 1996, also includes the value of commodities provided to household members for farm work. 9. Wages, salaries, net income from nonfarm businesses, interest, dividends, transfer payments, etc. In 1993 and 1994, also includes net rental income from farmland. 10. From the CPS. Sources: U.S. Department of Agriculture, Economic Research Service, 1992, 1993, 1994, and 1995 Farm Costs and Returns Survey (FCRS), and 1996 and 1997 Agricultural Resource Management Study for farm operator household data. U.S. Department of Commerce, Bureau of the Census Current Population Survey (PCS), for average household income. Information contact: Bob Hoppe (202) 694-5572 or [rhoppe@ers.usda.gov](mailto:rhoppe@ers.usda.gov)

**Table 32—Balance Sheet of the U.S. Farming Sector**

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<i>\$ billion</i>										
Farm assets	844.2	868.3	910.2	935.5	966.7	1,003.7	1,051.5	1,064.2	1,083.7	1,111.7
Real estate	624.8	640.8	677.6	704.1	740.5	769.4	808.4	822.8	846.7	872.9
Livestock and poultry <sup>1</sup>	68.1	71.0	72.8	67.9	57.8	60.3	67.1	62.0	61.3	60.4
Machinery and motor vehicles	85.9	85.4	86.5	87.5	88.5	88.9	89.0	88.6	86.9	86.3
Crops stored <sup>2,3</sup>	22.2	24.2	23.3	23.3	27.4	31.7	32.2	30.1	30.3	31.5
Purchased inputs	2.6	3.9	3.8	5.0	3.4	4.4	5.1	5.3	5.5	5.6
Financial assets	40.5	43.1	46.3	47.6	49.1	49.0	49.7	55.4	53.0	55.0
Total farm debt	139.2	139.1	142.0	146.8	150.8	156.1	165.4	172.7	176.4	176.4
Real estate debt <sup>3</sup>	74.9	75.4	76.0	77.7	79.3	81.7	85.4	89.6	94.2	95.5
Non-real estate debt <sup>4</sup>	64.3	63.6	65.9	69.1	71.5	74.4	80.1	83.1	82.2	81.0
Total farm equity	705.0	729.3	768.3	788.7	815.9	847.6	886.1	891.5	907.3	935.3
<i>Percent</i>										
Selected ratios										
Debt to equity	19.8	19.1	18.5	18.6	18.5	18.4	18.7	19.4	19.4	18.9
Debt to assets	16.5	16.0	15.6	15.7	15.6	15.6	15.7	16.2	16.3	15.9

Values in the last two columns are preliminary or forecast. 1. As of December 31. 2. Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3. Includes CCC storage and drying facilities loans, but excludes debt on operator dwellings. 4. Excludes debt for nonfarm purposes. *Information contact: Ken Erickson (202) 694-5565 or [erickson@ers.usda.gov](mailto:erickson@ers.usda.gov)*

To confirm that this table contains the current forecast, go to <http://www.ers.usda.gov/briefing/farmincome/fore/fore.ht>

**Table 33—Cash Receipts from Farming**

	Annual			1999		2000				
	1997	1998	1999	Jul	Feb	Mar	Apr	May	Jun	Jul
<i>\$ million</i>										
Commodity sales <sup>1</sup>	207,596	196,575	188,610	14,479	13,291	15,180	13,671	15,016	13,945	15,083
Livestock and products	96,463	94,112	95,463	8,000	7,901	8,694	7,678	8,864	7,888	8,404
Meat animals	49,681	43,336	45,600	3,504	4,322	4,883	3,927	5,127	4,061	4,150
Dairy products	20,940	24,114	23,204	1,904	1,685	1,805	1,724	1,781	1,738	1,788
Poultry and eggs	22,260	22,942	22,942	1,941	1,668	1,762	1,803	1,725	1,826	1,815
Other	3,581	3,719	3,717	651	226	244	223	231	262	651
Crops	111,134	102,463	93,146	6,479	5,390	6,486	5,993	6,152	6,057	6,680
Food grains	10,411	8,892	7,292	987	283	458	270	278	788	1,205
Feed crops	27,048	22,666	19,752	1,264	1,441	1,643	905	959	1,303	1,245
Cotton (lint and seed)	6,345	6,101	4,696	88	235	155	61	75	98	81
Tobacco	2,874	2,803	2,273	8	106	40	9	0	0	7
Oil-bearing crops	19,802	17,483	13,555	623	754	963	625	582	713	722
Vegetables and melons	14,653	15,145	15,164	1,436	773	1,113	1,248	1,865	1,397	1,360
Fruits and tree nuts	13,134	12,238	12,975	1,100	741	582	896	898	830	1,082
Other	16,866	17,136	17,441	974	1,057	1,532	1,979	1,494	928	978
Government payments	7,495	12,209	20,594	652	1,151	946	1,058	248	700	396
Total	215,092	208,784	209,204	15,132	14,442	16,126	14,729	15,264	14,646	15,479

Annual values for the most recent year are preliminary. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. *Information contacts: Larry Traub (202) 694-5593 or [ltraub@ers.usda.gov](mailto:ltraub@ers.usda.gov)*  
To receive current monthly cash receipts via e-mail contact Larry Traub.

**Table 34—Cash Receipts from Farm Marketings, by State**

Region and State	Livestock and products				Crops <sup>1</sup>				Total <sup>1</sup>			
	1998	1999	Jun 1999	Jul 2000	1998	1999	Jun 1999	Jul 2000	1998	1999	Jun 1999	Jul 2000
\$ million												
<b>North Atlantic</b>												
Maine	295	286	22	21	215	229	6	15	510	515	28	37
New Hampshire	69	63	5	5	86	90	4	6	155	153	9	11
Vermont	463	473	36	37	71	68	2	12	534	541	39	49
Massachusetts	108	101	8	8	314	295	25	28	422	396	33	36
Rhode Island	9	8	1	1	40	39	2	3	49	48	3	4
Connecticut	184	180	14	14	298	302	12	15	482	482	26	29
New York	2,092	2,043	160	162	1,055	1,054	67	118	3,146	3,097	227	279
New Jersey	219	187	11	57	609	554	53	64	828	740	65	121
Pennsylvania	2,909	2,877	215	210	1,252	1,193	78	80	4,161	4,070	293	290
<b>North Central</b>												
Ohio	1,854	1,786	151	154	3,064	2,643	155	189	4,918	4,429	306	344
Indiana	1,632	1,581	158	162	2,899	2,792	147	188	4,531	4,373	305	350
Illinois	1,574	1,524	135	146	6,448	5,233	319	378	8,022	6,757	454	524
Michigan	1,320	1,331	114	124	2,186	2,139	120	160	3,506	3,470	234	284
Wisconsin	4,491	4,149	320	317	1,610	1,447	75	109	6,101	5,596	395	425
Minnesota	3,773	3,548	317	319	4,102	3,513	220	218	7,875	7,061	537	537
Iowa	4,753	4,712	434	622	6,300	5,004	332	310	11,053	9,716	766	931
Missouri	2,469	2,477	217	195	2,285	1,779	99	146	4,754	4,256	316	341
North Dakota	555	647	36	41	2,359	2,112	126	116	2,913	2,759	162	156
South Dakota	1,549	1,830	164	161	1,855	1,709	135	167	3,404	3,539	299	328
Nebraska	5,124	5,425	450	441	3,906	3,130	187	204	9,030	8,555	637	645
Kansas	4,539	5,009	454	443	3,408	2,607	155	411	7,946	7,616	609	854
<b>Southern</b>												
Delaware	609	566	50	48	167	153	13	21	776	718	64	69
Maryland	942	937	79	76	571	544	40	60	1,513	1,481	119	136
Virginia	1,565	1,580	137	137	766	704	37	58	2,332	2,283	175	194
West Virginia	335	334	27	28	61	53	5	5	396	387	32	33
North Carolina	3,956	3,850	375	334	3,233	2,838	165	149	7,190	6,688	541	483
South Carolina	764	773	56	60	733	633	54	52	1,497	1,406	111	113
Georgia	3,400	3,334	258	266	2,017	1,907	159	98	5,418	5,241	417	364
Florida	1,390	1,363	92	102	5,573	5,702	315	222	6,963	7,066	407	323
Kentucky	2,171	2,158	88	441	1,603	1,298	41	35	3,773	3,456	129	476
Tennessee	1,039	1,011	84	81	1,166	963	51	51	2,205	1,974	135	132
Alabama	2,587	2,777	191	206	709	662	41	36	3,296	3,438	232	241
Mississippi	2,164	2,143	169	165	1,271	1,031	41	42	3,436	3,174	210	206
Arkansas	3,283	3,397	275	261	2,141	1,863	120	58	5,423	5,259	396	319
Louisiana	631	620	50	53	1,236	1,228	26	24	1,868	1,848	76	78
Oklahoma	2,803	3,135	283	275	962	855	153	139	3,765	3,991	436	414
Texas	8,149	8,480	726	741	5,005	4,572	319	394	13,154	13,052	1,045	1,135
<b>Western</b>												
Montana	883	928	65	63	924	789	50	43	1,808	1,716	115	106
Idaho	1,585	1,603	127	140	1,742	1,744	110	139	3,327	3,347	237	279
Wyoming	680	680	35	32	168	172	3	8	848	852	39	40
Colorado	2,842	3,016	260	229	1,529	1,338	80	108	4,371	4,354	340	337
New Mexico	1,420	1,441	125	126	521	513	63	65	1,941	1,953	188	191
Arizona	921	987	101	94	1,410	1,191	115	65	2,331	2,178	215	158
Utah	723	724	57	61	261	243	15	21	984	967	72	83
Nevada	199	216	17	15	149	118	9	14	348	334	26	29
Washington	1,743	1,658	132	130	3,413	3,275	230	278	5,156	4,933	362	408
Oregon	762	790	67	67	2,199	2,262	150	197	2,961	3,052	217	264
California	6,526	6,714	527	526	18,145	18,087	1,293	1,321	24,671	24,801	1,819	1,847
Alaska	27	29	2	2	18	19	2	2	44	48	4	5
Hawaii	90	86	8	7	423	447	36	38	514	533	44	45
<b>U.S.</b>	94,112	95,463	7,888	8,404	102,463	93,146	6,057	6,680	196,575	188,610	13,945	15,083

Annual values for the most recent year are preliminary. Estimates as of end of current month. Totals may not add because of rounding. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period.

Information contact: Larry Traub (202) 694-5593 or ltraub@ers.usda.gov. To receive current monthly cash receipts via e-mail, contact Larry Traub.

**Table 35—CCC Net Outlays by Commodity & Function**

Commodity/Program	Fiscal year									
	1992	1993	1994	1995	1996	1997	1998	1999	2000 E	2001 E
	\$ million									
<b>Commodity/Program</b>										
Feed grains:										
Corn	2,105	5,143	625	2,090	2,021	2,587	2,873	5,402	9,696	3,712
Grain sorghum	190	410	130	153	261	284	296	502	942	252
Barley	174	186	202	129	114	109	168	224	393	128
Oats	32	16	5	19	8	8	17	41	63	55
Corn and oat products	9	10	10	1	0	0	0	0	1	0
Total feed grains	2,510	5,765	972	2,392	2,404	2,988	3,354	6,169	11,095	4,147
Wheat and products	1,719	2,185	1,729	803	1,491	1,332	2,187	3,435	5,417	1,688
Rice	715	887	836	814	499	459	491	911	1,729	769
Upland cotton	1,443	2,239	1,539	99	685	561	1,132	1,882	4,206	1,700
Tobacco	29	235	693	-298	-496	-156	376	113	301	25
Dairy	232	253	158	4	-98	67	291	480	685	149
Soybeans	-29	109	-183	77	-65	5	139	1,289	2,725	3,325
Peanuts	41	-13	37	120	100	6	-11	21	42	60
Sugar	-19	-35	-24	-3	-63	-34	-30	-51	141	90
Honey	17	22	0	-9	-14	-2	0	2	1	3
Wool and mohair	191	179	211	108	55	0	0	10	7	-6
Operating expense <sup>1</sup>	6	6	6	6	6	6	5	4	60	5
Interest expenditure	532	129	-17	-1	140	-111	76	210	626	707
Export programs <sup>2</sup>	1,459	2,193	1,950	1,361	-422	125	212	165	329	691
1988-2000 Disaster/tree/ livestock assistance	1,054	944	2,566	660	95	130	3	2,241	1,549	26
Conservation Reserve Program	0	0	0	0	2	1,671	1,693	1,462	1,587	1,657
Other conservation programs	0	0	0	0	7	105	197	292	382	355
Other	-162	949	-137	-103	320	104	28	588	1,459	1,004
<b>Total</b>	<b>9,738</b>	<b>16,047</b>	<b>10,336</b>	<b>6,030</b>	<b>4,646</b>	<b>7,256</b>	<b>10,143</b>	<b>19,223</b>	<b>32,341</b>	<b>16,395</b>
<b>Function</b>										
Price support loans (net)	584	2,065	527	-119	-951	110	1,128	1,455	1,947	1,248
Cash direct payments: <sup>3</sup>										
Production flexibility contract	0	0	0	0	5,141	6,320	5,672	5,476	5,049	4,057
Market loss assistance	0	0	0	0	0	0	0	3,011	11,054	0
Deficiency	5,491	8,607	4,391	4,008	567	-1,118	-7	-3	0	0
Dairy termination	2	0	0	0	0	0	0	0	0	0
Loan deficiency	214	387	495	29	0	0	478	3,360	6,387	5,259
Oilseed	0	0	0	0	0	0	0	0	463	500
Cotton user marketing	140	114	149	88	34	6	416	280	491	355
Other	0	35	22	9	61	1	0	1	476	520
Conservation Reserve Program	0	0	0	0	2	1,671	1,693	1,435	1,551	1,657
Other conservation programs	0	0	0	0	0	85	156	247	331	302
Noninsured Assistance (NAP)	0	0	0	0	2	52	23	54	75	177
Total direct payments	5,847	9,143	5,057	4,134	5,807	7,017	8,431	13,861	25,877	12,827
1988-99 crop disaster	960	872	2,461	577	14	2	-2	1,913	1,299	0
Emergency livestock/tree/DRAP livestock indemn/forage assist.	94	72	105	83	81	128	5	328	250	26
Purchases (net)	321	525	293	-51	-249	-60	207	668	784	57
Producer storage payments	14	9	12	23	0	0	0	0	0	0
Processing, storage, and transportation	185	136	112	72	51	33	38	62	75	75
Export donations ocean transportation	139	352	156	50	69	34	40	323	617	161
Operating expense <sup>1</sup>	6	6	6	6	6	6	5	4	60	5
Interest expenditure	532	129	-17	-1	140	-111	76	210	626	707
Export programs <sup>2</sup>	1,459	2,193	1,950	1,361	-422	125	212	165	329	691
Other	-403	545	-326	-105	100	-28	3	234	477	598
<b>Total</b>	<b>9,738</b>	<b>16,047</b>	<b>10,336</b>	<b>6,030</b>	<b>4,646</b>	<b>7,256</b>	<b>10,143</b>	<b>19,223</b>	<b>32,341</b>	<b>16,395</b>

1/ Does not include CCC Transfers to General Sales Manager. 2/ Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Access (Promotion) Program, starting in FY 1991 and starting in FY 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, Dairy Export Incentive Program, & Technical Assistance to Emerging Markets, and starting in FY 2000 Foreign Market Development Cooperative Program and Quality Samples Program. 3/ Approximately \$1.5 billion in benefits to farmers under the Disaster Assistance Act of 1989 were paid in generic certificates and were not recorded directly as disaster assistance outlays. 4/ Includes cash payments only. Excludes generic certificates in FY 86-96. E= Estimated in FY 2001 Mid-Session Review Budget which was released on June 26, 2000 based on April 2000 supply & demand estimates. The CCC outlays shown for 1996-2002 include the impact of the Federal Agriculture Improvement and Reform Act of 1996, which was enacted on April 4, 1996, and FY 2000 and FY 2001 outlays include the impact of the Agricultural Risk Protection Act of 2000, which was enacted on June 20, 2000. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds). Information contact: Richard Pazdalski Farm Service Agency-Budget at (202) 720-3675 or Richard\_Pazdalski@wdc.fsa.usda.gov.



## Food Expenditures

**Table 36—Food Expenditures**

	Annual			2000			Year-to-date cumulative		
	1997	1998	1999	Jun	Jul	Aug	Jun	Jul	Aug
	\$ billion								
Sales <sup>1</sup>									
At home <sup>2</sup>	383.8	392.3	407.3	36.6	35.6	35.7	209.6	245.2	280.9
Away from home <sup>3</sup>	309.5	322.1	343.7	32.3	32.8	33.8	183.8	216.6	250.4
	1998 \$ billion								
Sales <sup>1</sup>									
At home <sup>2</sup>	392.4	392.3	397.8	35.3	34.1	34.0	202.6	236.6	270.7
Away from home	317.4	322.1	335.3	30.8	31.2	32.1	176.3	207.5	239.6
	Percent change from year earlier (\$ billion)								
Sales <sup>1</sup>									
At home <sup>2</sup>	3.8	2.2	3.8	8.6	0.6	4.2	6.7	5.7	5.5
Away from home <sup>3</sup>	5.9	4.1	6.7	9.5	5.8	11.2	12.1	11.1	11.1
	Percent change from year earlier (1998 \$ billion)								
Sales <sup>1</sup>									
At home <sup>2</sup>	-0.2	0.0	1.4	6.3	-2.2	1.3	8.6	6.9	6.1
Away from home <sup>3</sup>	3.0	1.5	4.1	6.9	3.3	8.6	14.5	12.7	12.1

-- = Not available. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production. 3. Excludes donations, child nutrition subsidies, and meals furnished to employees, patients, and inmates. *Information contact: Annette Clauson (202) 694-5389*

Note: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food, excluding alcoholic beverages and pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced and consumed on farms and food furnished to employees; (4) this series includes all sales of meals and snacks, while PCE includes only purchases using personal funds, excluding business travel and entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," ERS Agr. Econ. Rpt. No. 575, Aug. 1987.

## Transportation

**Table 37—Rail Rates; Grain & Fruit-Vegetable Shipments**

	Annual			1999		2000				
	1997	1998	1999	Aug	Mar R	Apr R	May	Jun	Jul	Aug P
Rail freight rate index <sup>1</sup> (Dec. 1984=100)										
All products	112.1	113.4	113.0	112.7	114.0	113.9	114.6	115.0	115.3	115.0
Farm products	120.3	123.9	121.8	121.4	122.5	121.7	121.7	121.7	122.3	124.2
Grain food products	107.6	107.4	99.6	99.3	100.4	99.7	100.5	100.5	100.5	--
Grain shipments										
Rail carloadings (1,000 cars) <sup>2</sup>	23.2	22.8	24.4	26.5	25.0	22.4	21.9	20.7	22.1	23.4
Barge shipments (mil. ton) <sup>3</sup>	2.6	3.0	3.5	3.8	3.2	3.6	3.5	3.3	4.3	3.3
Fresh fruit and vegetable shipments <sup>4</sup>										
Piggy back (mil. cwt)	1.1	0.9	0.7	0.8	0.9	0.9	1.1	1.0	0.8	0.7
Rail (mil. cwt)	1.7	1.2	1.1	0.5	1.1	1.0	1.4	2.0	1.3	1.0
Truck (mil. cwt)	42.6	42.2	44.3	42.2	44.9	51.5	59.3	56.5	44.4	42.5

P= Preliminary. R = Revised. -- = Not available. 1. Department of Labor, Bureau of Labor Statistics. 2. Weekly average; from Association of American Railroads. 3. Shipments on Illinois and Mississippi waterways, U.S. Corps of Engineers. 4. Agricultural Marketing Service, USDA.

*Information contact: Jenny Gonzales (202) 694-5296*

## Indicators of Farm Productivity

**Table 38—Indexes of Farm Production, Input Use, & Productivity<sup>1</sup>**

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
	1992 = 100									
Farm output	88	83	89	94	94	100	94	107	101	106
All livestock products	92	93	94	95	98	100	100	108	110	109
Meat animals	95	97	97	96	99	100	100	102	103	100
Dairy products	94	96	95	98	98	100	99	114	115	115
Poultry and eggs	81	83	86	92	96	100	104	110	114	119
All crops	86	75	86	92	92	100	90	106	96	103
Feed crops	84	62	85	88	86	100	76	102	83	98
Food crops	84	76	83	107	82	100	96	97	90	93
Oil crops	88	72	88	87	94	100	85	115	99	107
Sugar	95	91	91	92	96	100	95	106	98	94
Cotton and cottonseed	92	96	75	96	109	100	100	122	110	117
Vegetables and melons	90	81	85	93	97	100	97	113	108	112
Fruit and nuts	95	102	98	97	96	100	107	111	102	102
Farm input <sup>1</sup>	101	100	100	101	102	100	101	102	101	100
Farm labor	101	103	104	102	106	100	96	96	92	100
Farm real estate	100	100	102	101	100	100	98	99	98	99
Durable equipment	120	113	108	105	103	100	97	94	92	89
Energy	102	102	101	100	101	100	100	103	109	104
Fertilizer	106	97	94	97	98	100	111	109	85	89
Pesticides	92	79	93	90	100	100	97	103	94	106
Feed, seed, and purchased livestock	97	96	91	99	99	100	101	102	109	95
Inventories	102	98	93	97	100	100	104	99	108	104
Farm output per unit of input	87	83	90	93	92	100	94	105	100	106
Output per unit of labor										
Farm <sup>2</sup>	87	81	86	92	89	100	98	111	110	106
Nonfarm <sup>3</sup>	95	95	96	96	97	100	100	101	--	--

-- = Not available. Values for latest year preliminary. 1. Includes miscellaneous items not shown separately. 2. Source: Economic Research Service.

3. Source: Bureau of Labor Statistics. *Information contact: John Jones (202) 694-5614*

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## Food Supply & Use

**Table 39—Per Capita Consumption of Major Food Commodities<sup>1</sup>**

Commodity	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	<i>Lbs.</i>									
Red meats <sup>2,3,4</sup>	115.6	112.3	111.9	114.0	112.1	114.7	115.1	112.8	111.0	115.6
Beef	65.4	63.9	63.1	62.8	61.5	63.6	64.4	65.0	63.8	64.9
Veal	1.0	0.9	0.8	0.8	0.8	0.8	0.8	1.0	0.9	0.7
Lamb & mutton	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.9
Pork	48.4	46.4	46.9	49.5	48.9	49.5	49.0	45.9	45.5	49.2
Poultry <sup>2,3,4</sup>	53.9	56.3	58.3	60.8	62.5	63.3	62.9	64.1	64.2	65.0
Chicken	40.9	42.4	44.2	46.7	48.5	49.3	48.8	49.5	50.3	50.8
Turkey	13.1	13.8	14.1	14.1	14.0	14.1	14.1	14.6	13.9	14.2
Fish and shellfish <sup>3</sup>	15.6	15.0	14.8	14.7	14.9	15.1	14.9	14.7	14.5	14.8
Eggs <sup>4</sup>	30.5	30.2	30.1	30.3	30.4	30.6	30.2	30.4	30.7	31.8
Dairy products										
Cheese (excluding cottage) <sup>2,5</sup>	23.8	24.6	25.0	26.0	26.2	26.8	27.3	27.7	28.0	28.4
American	11.0	11.1	11.1	11.3	11.4	11.5	11.8	12.0	12.0	12.2
Italian	8.5	9.0	9.4	10.0	9.8	10.3	10.4	10.8	11.0	11.3
Other cheeses <sup>6</sup>	4.3	4.5	4.6	4.7	5.0	5.0	5.0	5.0	5.0	4.8
Cottage cheese	3.6	3.4	3.3	3.1	2.9	2.8	2.7	2.6	2.7	2.7
Beverage milks <sup>2</sup>	224.2	221.8	221.1	218.3	213.4	213.6	209.8	210.0	206.9	204.5
Fluid whole milk <sup>7</sup>	97.5	90.4	87.3	84.0	80.1	78.8	75.3	74.6	72.7	71.6
Fluid lower fat milk <sup>8</sup>	106.5	108.5	109.9	109.3	106.6	106.0	102.6	101.7	99.9	98.5
Fluid skim milk	20.2	22.9	23.9	25.0	26.7	28.8	31.9	33.7	34.3	34.4
Fluid cream products <sup>9</sup>	7.8	7.6	7.7	8.0	8.0	8.1	8.4	8.7	9.0	9.2
Yogurt (excluding frozen)	4.2	4.0	4.2	4.2	4.3	4.7	5.1	4.8	5.2	5.1
Ice cream	16.1	15.8	16.3	16.3	16.1	16.1	15.7	15.9	16.4	16.6
Lowfat ice cream <sup>10</sup>	8.4	7.7	7.4	7.1	6.9	7.6	7.5	7.6	7.9	8.3
Frozen yogurt	2.0	2.8	3.5	3.1	3.5	3.5	3.5	2.6	2.1	1.9
All dairy products, milk equivalent, milkfat basis <sup>11</sup>	563.8	568.4	565.6	565.9	574.1	586.0	583.9	574.7	577.7	582.3
Fats and oils--total fat content	60.5	63.0	64.8	66.8	69.7	68.0	66.4	65.3	64.9	65.3
Butter and margarine (product weight)	14.6	15.3	15.0	15.4	15.8	14.8	13.7	13.5	12.8	12.5
Shortening	21.5	22.2	22.4	22.4	25.1	24.1	22.5	22.3	20.9	20.9
Lard and edible tallow (direct use)	1.8	2.2	1.8	3.5	3.4	4.2	4.4	4.8	4.1	5.2
Salad and cooking oils	24.4	25.3	26.4	27.2	26.9	26.2	26.9	26.2	28.6	27.9
Fruits and vegetables <sup>12</sup>	656.0	656.1	650.3	677.7	691.3	705.8	694.3	710.9	717.9	699.6
Fruit	278.0	272.6	255.3	283.8	283.1	291.0	284.8	290.2	296.8	281.4
Fresh fruits	122.9	116.3	113.0	123.5	124.5	126.3	124.1	128.1	131.9	131.8
Canned fruit	21.2	21.0	19.8	22.9	20.7	21.0	17.5	18.8	20.4	17.3
Dried fruit	13.2	12.1	12.3	10.8	12.6	12.8	12.8	11.3	10.8	12.8
Frozen fruit	4.1	3.8	3.8	3.9	3.7	3.8	4.2	4.0	3.7	4.2
Selected fruit juices	116.4	119.0	106.0	122.1	121.2	126.7	125.8	127.7	129.3	115.0
Vegetables	378.0	383.5	395.0	393.9	408.3	414.7	409.5	420.7	421.1	418.1
Fresh	172.2	167.1	167.4	171.1	178.2	184.6	179.1	184.1	190.4	186.5
Canning	102.4	111.6	114.4	112.2	112.9	112.4	110.8	109.5	107.8	108.0
Freezing	67.4	66.8	72.6	70.9	76.0	78.4	79.9	84.7	81.9	82.3
Dehydrated and chips	29.8	31.0	32.8	31.5	33.6	31.0	31.3	34.5	32.7	32.9
Pulses	6.3	7.1	7.8	8.1	7.7	8.4	8.4	8.0	8.3	8.4
Peanuts (shelled)	7.0	6.0	6.5	6.2	6.1	5.8	5.7	5.7	5.9	5.9
Tree nuts (shelled)	2.2	2.4	2.2	2.2	2.4	2.3	1.9	2.0	2.1	2.3
Flour and cereal products <sup>13</sup>	174.2	181.6	183.0	185.6	189.7	192.4	190.3	196.3	197.6	195.0
Wheat flour	129.7	136.0	137.0	138.9	143.3	144.5	141.8	148.7	149.5	145.9
Rice (milled basis)	14.8	15.8	16.2	16.7	16.7	18.1	18.9	17.8	18.4	18.9
Caloric sweeteners <sup>14</sup>	133.1	136.9	137.9	141.2	144.4	147.3	149.8	150.7	154.0	155.1
Coffee (green bean equiv.)	10.1	10.3	10.3	10.0	9.1	8.2	8.0	8.9	9.3	9.5
Cocoa (chocolate liquor equiv.)	4.0	4.3	4.6	4.6	4.3	3.9	3.6	4.2	4.1	4.4

-- = Not available. 1. In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, and ending stocks. Calendar-year data, except fresh citrus fruits, peanuts, tree nuts, and rice, which are on crop-year basis. 2. Totals may not add due to rounding. 3. Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 4. Excludes shipments to the U.S. territories. 5. Whole and part-skim milk cheese. Natural equivalent of cheese and cheese products. 6. Includes Swiss, Brick, Muenster, cream, Neufchatel, Blue, Gorgonzola, Edam, and Gouda. 7. Plain and flavored. 8. Plain and flavored, and buttermilk. 9. Heavy cream, light cream, half and half, eggnog, sour cream, and dip. 10. Formerly known as ice milk. 11. Includes condensed and evaporated milk and dry milk products. 12. Farm weight. 13. Includes rye, corn, oats, and barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, and fuel. 14. Dry weight equivalent.

Information contact: Jane E. Allshouse (202) 694-5414

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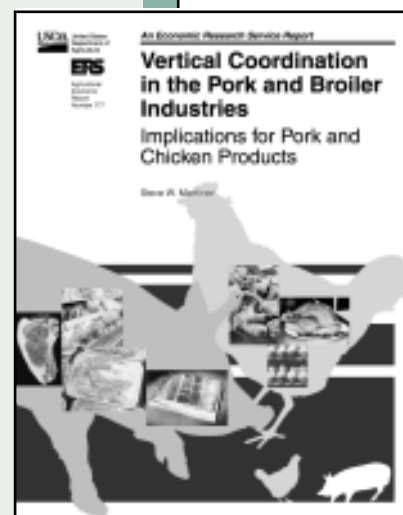
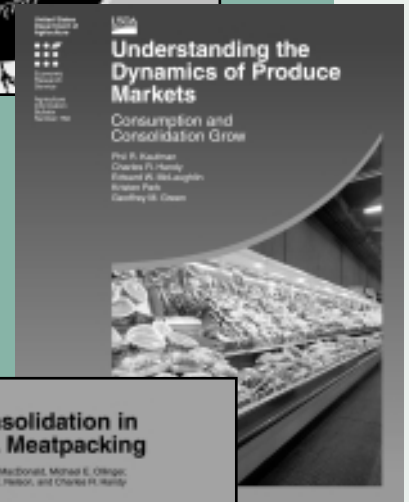
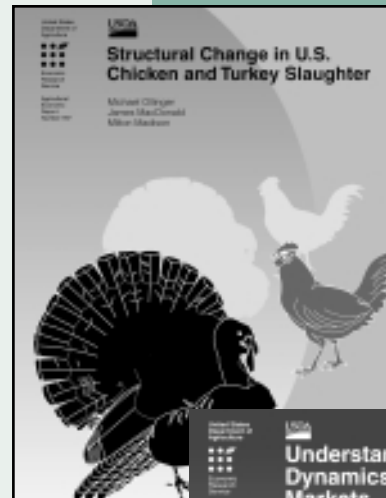
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