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Cover photo: Grant Heilman Photography.

In This Issue . . .

Wheat Prospects . . . New Wheat Varieties . . . Rice Trade . . . Biotech Crops . . . Mexican Supermarkets . . . Melon Consumption

Record U.S. Wheat Yields Pressure Prices in 1998/99

Large back-to-back wheat production in the U.S. and globally, along with weak demand, is driving down prices. This contrasts starkly with the situation just 3 years ago when low global stocks, modest U.S. production, and relatively strong demand elevated the season-average farm price to a record $4.55 per bushel. This season, another large U.S. crop and the absence of any major weather problems in most other wheat-producing countries will lead to further gains in U.S. stocks. Several key wheat-importing countries are expected to maintain or reduce import levels because of increased domestic supplies. As a result, the U.S. season-average farm price may fail to break $3 for the first time since 1990/91. A record winter wheat yield, coupled with a forecast higher spring wheat yield (including durum), has put the U.S. all-wheat yield at a forecast record 42.6 bushels per acre, surpassing 40 bushels for the first time.

Hard White Wheat: A Promising Option for Farmers?

The introduction of promising varieties of hard white wheat (HWW), pending possible release next year, has raised speculation about whether wheat growers in Kansas and elsewhere in the Great Plains might make a dramatic switch from hard red to hard white wheat. University and industry studies show that HWW has a relatively high milling extraction rate and quality characteristics suitable for whole-wheat bread, oriental noodles, and other products. However, several agronomic and economic factors will help determine the speed and extent of its adoption, and HWW must establish its advantages with users as well as growers.

World Rice Trade Soars to Record

World rice trade in 1998 is projected to be a record 23.4 million tons, up 24 percent from last year and more than 11 percent higher than the previous record in 1995. This year's robust trade is primarily driven by weather-related production problems, mostly caused by the 1997/98 El Niño, which have severely reduced crops in several major importing countries in South and Southeast Asia and across much of Latin America. Rice trade in 1999 is projected at 20.2 million tons, 14 percent below the 1998 record, but still the third highest on record.

Farmers Rapidly Adopting Biotech Field Crops

U.S. farmers have weighed in resoundingly in favor of the new genetically modified crop varieties that feature resistance to pests and the ability to tolerate herbicides. Farmers' rapidfire adoption of these varieties–area has soared to about 50 million acres in just 3 years in the market–has been propelled by potential cost savings and reductions in input use. The second wave of genetic modification will focus on product or output traits such as improved nutritional qualities and processing characteristics.

Genetically modified crops now on the market reflect very substantial investments by the private sector. Reports on the effectiveness of the new varieties are generally favorable, and users have indicated that the higher cost of the seed is offset by reduction in chemical costs. But adoption by farmers has been so rapid and the technology is so new that only limited assessment of economic, agronomic, and environmental impacts has been made. There are concerns about potential buildup of resistance by insects and weeds, and trade issues have arisen as other countries, notably the European Union, have lagged the U.S. in the approval of genetically modified crops. The impacts, problems, and solutions will become more evident as the technology evolves.

Supermarkets Reshape Mexico's Produce Distribution System

The Mexican produce distribution system is in the midst of major structural change. Although small, specialized produce shops or stalls account for the bulk of consumer produce purchases, supermarket chains are rapidly gaining market share and challenging the capacity of the produce distribution network. The emerging marketing system is changing not only the kinds of produce demanded by Mexican households, but its quality, consistency, packaging, and handling. U.S. producers may have a window of opportunity for providing Mexican supermarkets the quality and consistency of produce the Mexican distribution system cannot yet deliver.

Melon Consumption Shows Steady Growth in 1990's

Per capita consumption of melons continues to trend higher in the 1990's, growing 24 percent since the decade began, and reaching 30.4 pounds in 1997. Among the factors in consumption growth are year-round demand and availability, increasing health consciousness among consumers, strong economic growth, and more creative marketing. Melon sales have benefited from pre-cut product displays and instore salad bars that have become mainstays of retail produce marketing in the 1990's. The annual retail value of all melons, including imports, likely averages $3 billion-$4 billion.

Briefs

Field Crops

U.S. Soybean Acreage Increasing Again for 1998

U.S. farmers have planted 72.7 million acres of soybeans in 1998, a 3-percent increase over last year, according to USDA's *Acreage* report released June 30. This would be the sixth consecutive year of higher soybean acreage. Farmers are expected to harvest a record 71.7 million acres of soybeans.

The March 31 USDA *Prospective Plantings* report indicated farmers' crop intentions for spring plantings in 1998, while estimates of planted and harvested acreage in the *Acreage* report were based on surveys conducted during the first two weeks of June. Compared with the *Prospective Plantings* report, planted area is 1 percent higher for soybeans and 2 percent lower for total wheat (durum is down 9 percent and "other" spring wheat is off 7 percent). Corn planted area is essentially unchanged.

Harvested acreages and actual yields will be strongly influenced by weather conditions as crops grow. If they persist, extreme dry conditions will reduce crop potential across much of the South. But overall, normal weather will result in large output and lower season-average farm prices for most U.S. field crops in 1998/99 compared with a year earlier (*AO* June/July 1998).

Estimated ***soybean*** acreage generally rose above last year's levels in the Corn Belt States while declining in most of the Southeast and Mid-Atlantic States. In addition, soybean acreage increased to expected record levels in Kansas, Minnesota, North Dakota, and Wisconsin. The dry weather during April in the Corn Belt allowed farmers to finish seeding corn ahead of normal and bumped up soybean plantings. While excessive rainfall hampered planting in the eastern Corn Belt during May, planting had caught up by month's end. Farmers in the Southeast and Mid-Atlantic continue to face dry conditions.

Corn plantings also increased in 1998 to an estimated 80.8 million acres, up 1 percent from last year and unchanged from the *Prospective Plantings* report. This is the highest planted corn acreage since 1985. Corn acres harvested for grain increased to an estimated 74.3 million acres, also up 1 percent from 1997. Total acreage for the Corn Belt States declined slightly for 1998, largely replaced by higher soybean plantings (*AO* May 1998). Outside the Corn Belt, acreage increased sharply in Louisiana, Texas, and South Dakota due to higher expected returns relative to other crops. Despite a cool spring that delayed plant development, the recent warmer weather has boosted corn growth throughout the Corn Belt. USDA reported that 68 percent of the corn crop was in good or excellent condition as of July 12.

Sorghum plantings dropped again in 1998 to an estimated 8.9 million acres, down 12 percent from 1997, as acreage declined in most of the major producing States. The largest drop occurred in Texas, as low feed grain prices and dry soil conditions reduced potential plantings. Area also declined in Kansas—the largest sorghum-producing State—for the second consecutive year.

Barley plantings declined in 1998 to an estimated 6.45 million acres, which would be the lowest on record. The largest declines were in North Dakota and Minnesota as farmers shift from traditional crops (i.e., barley and wheat), which have been beset by low prices and disease problems, to alternatives such as

U.S. Field Crops—Market Outlook

	Area		Yield	Output	Total supply	Domestic use	Exports	Ending stocks	Farm price
	Planted	Harvested							
	Mil. acres		Bu/acre	Mil. bu					$/bu
Wheat									
1997/98	71.0	63.6	39.7	2,527	3,063	1,300	1,040	723	3.40
1998/99	65.8	59.2	42.6	2,522	3,336	1,418	1,050	868	2.70-3.10
Corn									
1997/98	80.2	73.7	127.0	9,366	10,259	7,350	1,475	1,434	2.45
1998/99	80.8	74.3	129.6	9,625	11,069	7,625	1,600	1,844	1.95-2.35
Sorghum									
1997/98	10.1	9.4	69.5	653	701	455	205	41	2.20
1998/99	8.9	8.1	64.7	525	566	320	195	51	1.80-2.20
Barley									
1997/98	6.9	6.4	58.3	374	522	327	75	120	2.35
1998/99	6.4	6.1	61.9	376	531	382	25	124	1.85-2.25
Oats									
1997/98	5.2	2.9	60.5	176	348	272	2	74	1.60
1998/99	5.0	2.9	62.4	183	357	270	2	85	1.05-1.45
Soybeans									
1997/98	70.9	69.9	39.0	2,727	2,863	1,768	880	215	6.45
1998/99	72.7	71.7	39.5	2,830	3,050	1,740	875	435	4.85-5.85
			Lbs./acre	Mil. cwt (rough equiv.)					$/cwt
Rice									
1997/98	3.06	3.03	5,896	178.9	215.9	106.9	84	25.0	9.65
1998/99	3.22	3.19	5,930	189.0	224.0	108.9	85	30.1	8.50-9.50
			Lbs./acre	Mil. bales					c/lb.
Cotton									
1997/98	13.8	13.3	680	18.8	22.8	11.4	7.4	4.0	64.8
1998/99	12.9	11.2	645	15.0	19.0	11.0	5.0	3.0	*

Based on July 10, 1998 *World Agricultural Supply and Demand Estimates.*
USDA is prohibited from publishing cotton price projections.

Economic Research Service, USDA

soybeans, flaxseed, sunflowers, canola, and dry beans. Because of very warm and dry spring conditions, most of the 1998 barley crop was seeded ahead of normal.

A sharp increase in 1998/99 carryin stocks of feed grains, stemming from weakening use in 1997/98, is expected to push the supply to the highest level since 1994/95, when there was a record corn crop. In addition, sharp competition from other suppliers and economic problems in Asia will constrain a strong response in export markets. In turn, farm prices for corn are expected to be fairly weak in 1998/99. Most of the U.S. corn crop has entered the critical pollination phase.

All ***wheat*** planted acreage for 1998 is estimated at 65.8 million acres, down 7 percent from last year and the lowest planted area in 10 years. This decline is mainly because of drastically reduced spring wheat acreage, as unfavorable prices and several years of widespread disease problems encouraged Northern Plains producers to plant other crops such as soybeans and sunflowers.

For more on the wheat outlook see Commodity Spotlight, page 7

Cotton plantings for 1998 are estimated to total 12.9 million acres, 6 percent below 1997 and 300,000 acres less than the March *Prospective Plantings* report. Adverse weather has affected cotton more than other major field crops in 1998. During the spring, farmers in the Southeast and Delta regions had planned to shift from cotton to corn because of expected higher corn returns. The exception was Texas, where producers intended to increase cotton plantings from last year's low levels due to wet conditions. Dry soil and high temperatures in the Southern Plains and the Southeast hindered spring planting in many States.

Acreage Up for Soybeans and for Corn

	1998 acreage			1997 acreage		
	Prospective	Planted	Harvested	Prospective	Planted	Harvested
	Million acres					
Corn	80.8	80.8	74.3	81.4	80.2	73.7
Soybeans	72.0	72.7	71.7	68.8	70.9	69.9
Wheat	67.0	65.8	59.2	69.2	71.0	63.6
Sorghum	9.0	8.9	8.1	10.9	10.1	9.4
Barley	6.8	6.4	6.1	7.0	6.9	6.4
Oats	5.2	5.0	2.9	5.3	5.2	2.9
Rice	3.1	3.2	3.2	2.9	3.1	3.0
Cotton	13.2	12.9	NA	14.5	13.8	13.3

1998 harvested acreage forecast.
NA = Not available. The June *Acreage* report does not estimate cotton harvested acreage.
Economic Research Service, USDA

Texas, the largest cotton-producing State, has been the most affected by a withering drought, with one-third of the crop in either very poor or poor condition at the end of June. At the other extreme, excessive rainfall and below-normal temperatures linked to El Niño delayed planting and crop development in California, where acreage declined 17 percent from 1997. Crop conditions at the end of June showed 80 percent of the California cotton either in very poor or poor condition. Prospects for a smaller U.S. crop led to a rise in cotton prices from May to June (unlike prices for corn, wheat, and soybeans, which declined).

Rice plantings for 1998 are estimated at 3.22 million acres, up 5 percent from 1997, with long-grain acreage up 10 percent. Acreage was up from 1997 across the South, particularly in Arkansas, Louisiana, and Missouri. The expansion was due to favorable prices relative to nearly all alternative crops, especially soybeans. Area in California declined the most as extremely wet field conditions hampered and delayed planting.
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Briefs

Field Crops

World Rice Trade Soars to Record

World rice trade in 1998 is projected to be a record 23.4 million tons (rough basis), up 24 percent from last year and more than 11 percent higher than the previous record in 1995. While this year's record is largely due to abnormal weather, world rice trade is likely to remain strong in the foreseeable future. Rice trade in 1999 is projected at 20.2 million tons, 14 percent below the 1998 record, but still the third highest on record. USDA's long-term baseline projects trade to rise to 24.6 million tons over the next decade, a much higher level than at any previous time. These projected trade gains reflect freer trade and continued population growth.

This year's robust trade is primarily driven by weather-related production problems, mostly caused by the 1997/98 El Niño, which have severely reduced crops in several major importing countries in South and Southeast Asia and across much of Latin America. Total Asian imports are projected at a record 10.9 million tons, up 6.1 million tons from 1997. Similarly, Latin America will import a record 2.8 million tons, up 452,000 tons from last year.

The record trade is occurring at a time when the Asian financial crisis has reduced incomes and credit availability in many Asian countries. Because the buying power of middle- and higher income consumers has declined in several countries, many in the region are shifting from higher cost meats, fruits, and vegetables to lower cost rice. In addition, rice consumption historically has not been very responsive to price changes, a result of its being critical to most Asian diets and the lack of viable substitutes for many consumers. Thus, any price increase associated with the explosion in trade would dampen use only slightly.

Two factors have prevented this extremely high import demand from driving up prices to record levels. First, the substantial devaluation of the Thai baht and other Asian currencies in the second half of 1997—which precipitated the economic crisis—caused international rice prices to plunge last summer and fall. Second, the major Asian rice-exporting countries have large exportable supplies this year. Thailand, India, China, and Pakistan produced record crops in 1997/98, while the Vietnam crop was near-record. And U.S. supplies were the second highest on record. These six countries account for over 80 percent of world rice exports.

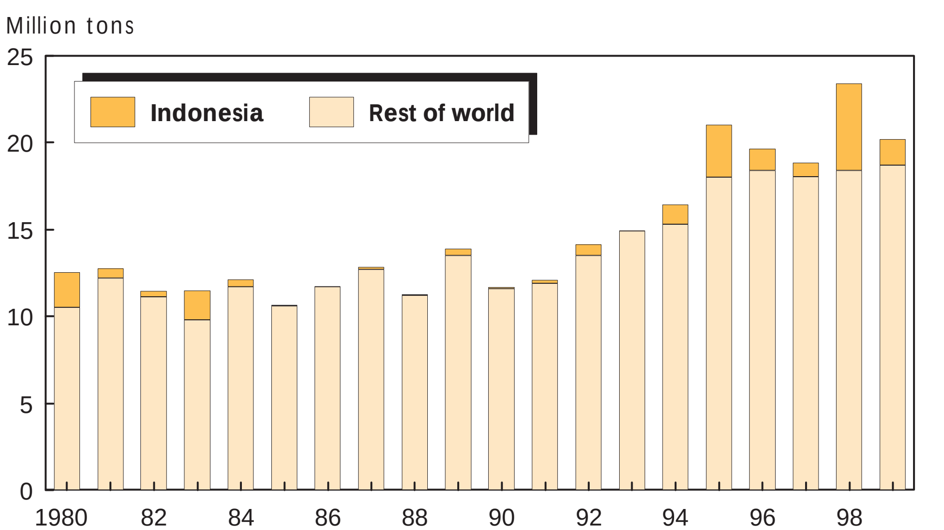
Although crops were smaller in several major rice-producing countries—Indonesia, Bangladesh, the Philippines, and Brazil—world rice production is projected at almost 568 million tons (rough basis) for 1997/98, the largest ever produced. The 1998/99 crop is projected at 575 million tons—another record—primarily a result of expected normal weather in Southeast Asia and Latin America. Prices rose only slightly in the first quarter of 1998, even though imports began to rise rapidly. But even with the currency devaluations, financial crisis, and initially large exportable supplies, trading prices have risen modestly since second-quarter 1998, as exportable supplies tightened—especially in Vietnam and Pakistan—and imports continued to rise.

The late arrival of the 1997 Asian Monsoon caused a 2- to 3-month delay in the planting of Indonesia's main crop, leading to reduced plantings and lower yields. The 1997/98 total crop is projected at 47.5 million tons, down 3.5 percent from 1996/97. Input shortages due to the Asian economic crisis hindered the crop as well. The 1996/97 crop was down 3.6 percent from the 1995/96 record crop.

These crop shortfalls are behind a 5-million ton import projection for Indonesia, more than six times higher than a year earlier and the largest amount of rice ever imported by a single country. Thailand and Vietnam will supply the bulk of Indonesia's imports, mostly low-quality rice. Japan, the U.S., Taiwan, and others will provide food aid to Indonesia. In total, Indonesia will likely receive at least 1.2 million tons of rice as food aid or soft loans in 1998.

For 1998/99, Indonesian rice production is projected to rise to 50.8 million tons, allowing 1999 imports to contract to 1.5 million tons—still a sizable amount. Over the long term, pressure from a rising population, the high cost of additional rice production, and lack of financial resources to invest in new rice land and improve infrastructure are expected to keep Indonesia a major importer in the world rice market.

Indonesian Imports Boost 1998 World Rice Trade to Record Level



1998 and 1999 projections.

Economic Research Service, USDA

El Niño caused severe drought in the major rice-growing areas of the Philippines as well, severely cutting its dry-season crop. The total 1997/98 crop is projected at 10.3 million tons, nearly 8 percent smaller than a year earlier. To prevent retail prices from rising and to forestall food shortages, the Philippines began purchasing rice in late 1997, mostly from Vietnam, China, and Thailand. Total rice imports in 1998 are projected at a record 1.75 million tons, more than double a year earlier. Imports are projected to drop to 900,000 tons in 1999, as production rises to 11 million tons. For the long term, the Philippines faces strong population growth, very limited resources to invest in new land and infrastructure, and very slow yield growth, necessitating large imports of rice.

Inadequate water, lack of fertilizer, and pest problems reduced Bangladesh's 1997/98 fall harvested crop to 27.3 million tons, more than 3 percent less than the previous year. Bangladesh is projected to import 1 million tons of rice in 1998, up from just 45,000 tons a year earlier. Most of these imports will be from neighboring India, limiting India's ability to export to Southeast Asia. A 4-percent increase in production to 28.5 million tons in 1998/99 will reduce Bangladesh's import needs next year to 350,000 tons. Bangladesh is projected to be only a modest importer of rice over the next decade.

Latin America also experienced rice crop losses from El Niño, although in some cases it was more often flooding than drought that led to lower yields and reduced area. Brazil's 1997/98 paddy crop is projected at 8.5 million tons, down more than 10 percent from a year earlier, primarily due to severe flooding in the Rio Grande do Sul, the country's largest rice-growing area. Brazil will import a record 1.2 million tons of rice in 1998, up from 850,000 tons a year earlier and the bulk of expanded total imports to Latin America in 1998. Because flooding also occurred in neighboring Argentina and Uruguay—which typically account for most of Brazil's imports—Brazil will likely import over 500,000 tons from outside the region, with the U.S. likely to be the largest supplier.

While normal weather is expected to allow Brazil's production to increase 15 percent to 9.8 million tons in 1998/99, imports will remain sizable at 1 million tons in 1999. Brazil has been unable to increase production to keep pace with consumption growth. The largest crop on record—11.8 million tons—was produced in 1987/88, and area has since dropped substantially. Brazil is projected to remain a major importer for the next decade, although it is unlikely the U.S. will maintain much of Brazil's market given lower transportation costs and the tariff advantages held by Argentina and Uruguay as members of MERCOSUR.

El Niño-related crop difficulties also have led to increased imports by Ecuador, Panama, Honduras, and the Dominican Republic in 1998. Ecuador typically exports small quantities of rice within South America, and Panama is usually self-sufficient. While Colombia and Costa Rica did not experience crop damage in 1997/98, both countries are importing substantially more U.S. rice this year. Similarly, drought in Guyana and Surinam—relatively small exporters—has reduced exports from these two countries.

As a result of the reduced crops in Latin America, U.S. rough rice exports are at a record level—projected at 25 million cwt in 1997/98, double a year earlier. Rough rice will account for almost 30 percent of total U.S. rice exports of 85 million cwt (rough basis)—a record share—and Latin America will import the bulk of it. The region has been a growing market for U.S. rice exports—mostly rough rice—since the beginning of the decade. Rough rice exports are projected at 23 million cwt in 1998/99, barely below this year's record. The major factor driving the strong 1998/99 U.S. rough rice projection is large purchases by Brazil this spring for delivery in 1998/99. The strong pace of rough rice exports has been the major factor supporting U.S. farm prices for rice this year.

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August Releases—USDA's Agricultural Statistics Board

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

August

3 Egg Products
Crop Progress (after 4:00 p.m.)
4 Dairy Products
5 Broiler Hatchery
Poultry Slaughter
7 Cheddar Cheese Prices (8:30 a.m.)
10 Crop Progress (after 4:00 p.m.)
12 Cotton Ginnings (8:30 a.m.)
Crop Production (8:30 a.m.)
Broiler Hatchery
13 Turkey Hatchery
14 Cheddar Cheese Prices (8:30 a.m.)
Cattle on Feed
Milk Production
17 Crop Progress (after 4:00 p.m.)
18 Cranberries (1:00 p.m.)
Mushrooms
19 Broiler Hatchery
20 Catfish Processing
21 Cheddar Cheese Prices (8:30 a.m.)
Cold Storage
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Crop Progress (after 4 p.m.)
25 Agricultural Cash Rents
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27 Peanut Stocks & Processing
28 Cheddar Cheese Prices (8:30 a.m.)
Rice Stocks
31 Agricultural Prices
Crop Progress (after 4:00 p.m.)

Briefs

Specialty Crops

Coffee Prices Coming Down From Highs

Coffee lovers will be drinking more Brazilian varieties this fall. USDA forecasts Brazil's 1998/99 harvest at a near-record 36 million bags, a third of the world's total and 50 percent above the 1997/98 marketing year (July-June). The Brazilian crop in 1997/98, an "off" year, produced only 23.5 million bags (60 kg or 132 pounds each). Brazil's coffee crop typically alternates on and off—a function of the biological competition between fruiting and branch growth. But this year the rise in production is greater than usual.

For the current crop, weather has been excellent for growth and maturity of the cherrylike beans. In addition, coffee trees in Brazil have recovered from the effects of a freeze in 1994, and strong prices in the last couple of years led growers to increase area and improve orchard care.

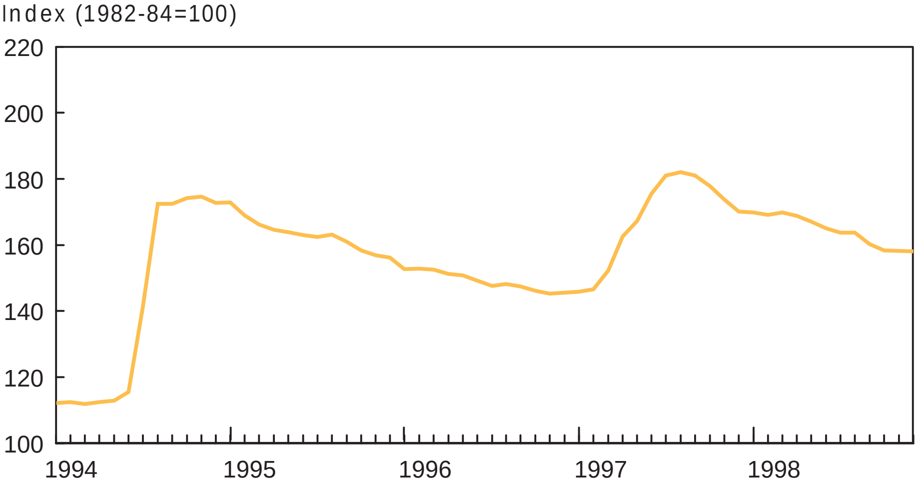
The current large Brazilian crop is forcing other countries to cut prices. In the U.S. market, price and country of origin are the two main determinants of competitive position. Brazilian coffees have not achieved the cachet enjoyed by Colombian and Central American coffees. But Colombian and Central American producers began cutting prices last spring on news of Brazil's favorable weather and excellent crop potential. Major U.S. roasters have announced price cuts on their most popular brands.

The lower prices could reverse the U.S. trend toward lower coffee consumption. Total U.S. consumption— averaging 18 million bags or 2.4 billion pounds annually—is down 15 percent from 20 years ago. A factor in the changing tastes of coffee consumers—as well as consumers of wine—is a shift toward higher quality but lower total volume.

Other coffee-producing countries are concerned that Brazil's large crop will cut into their export earnings, which amount to about $8 billion annually. World supplies of coffee for 1998/99, including carryin stocks, are forecast at 132 million bags, 6 percent above a year earlier. Forecast production from other South and Central American countries, as well as Kenya and the Ivory Coast, are mostly unchanged from 1997/98 levels. Increases in Vietnam will offset decreases in other Asian countries.

Coffee is produced from two types of beans: arabica and the less expensive robusta. Brazil produces mainly arabicas, and some robustas, while virtually all Colombian and Central American coffees are arabicas. Robustas, which make up 15-20 percent of U.S. imports, go mainly to soluble (instant) coffee or are blended with arabicas.

Retail Coffee Prices Dropping From Levels Reached in 1997



June-December 1998 forecasts.
Economic Research Service, USDA

Coffee importers, looking for bargains, have turned increasingly from Brazil to Asia. Asian coffee prices averaged 75 percent of Brazil's in fiscal 1991, and just 50 percent in 1997. Brazil's share of the U.S. market declined from 28 percent in fiscal 1991 to about 11 percent recently. Asia's share has increased from 8 percent to 19 percent, due largely to increases from Vietnam, while Colombia, Mexico, and Guatemala have together maintained a 40-percent share.

Before roasting, the beans are referred to as green coffee. Most coffee is imported green and then roasted, ground, and packaged for distribution. Increasingly, roasted coffee is sold as whole beans. Per capita consumption of coffee in the U.S. averages about a cup and a half per day of regular coffee, and less than a fifth of a cup of instant.

U.S. retail coffee prices have been on a roller coaster ride since the summer of 1994. Swings of 5-10 percent in world supplies and a tendency for roasters to reduce inventories contributed to the wide price fluctuations. According to the Green Coffee Association, U.S. stocks declined from 9.4 million bags at the end of 1992 to 1.4 million bags ending 1997. In 1994 and in early 1998, consumers facing soaring prices cut back on consumption, lowering the demand for imports.

Consumer prices this fall could dip 5-10 percent below last fall. Moreover, in the last couple of years, Brazil's farmers have planted new acreage, with more trees per acre and better fertilizer and pest management. If Brazil produces another bumper crop in 1999/00, prices could drop further and U.S. consumption could expand.

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Commodity Spotlight


USDA

Record U.S. Wheat Yield, Large Stocks Pressure Prices

Large back-to-back wheat production in the U.S. and globally, along with weak demand, is driving down prices. This contrasts starkly with the situation just 3 years ago, when low global stocks, modest U.S. production, and relatively strong demand elevated the season-average farm price to a record $4.55 per bushel. This season, another large U.S. crop and the absence of any major weather problems in most other wheat-producing countries will lead to further gains in U.S. stocks. As a result, the U.S. season-average farm price may fail to break $3 for the first time since 1990/91.

U.S. winter wheat plantings were down from a year earlier, suggesting a smaller crop in 1998. However, generally favorable weather, especially during harvest, will boost the winter wheat yield to a record 46.6 bushels per acre. State yield records will be set in Texas, Oklahoma, and Kansas. Coupled with a forecast higher spring wheat yield (including durum), the U.S. all-wheat yield is a forecast record 42.6 bushels per acre, breaking the 40-bushel barrier for the first time and up 2.9 bushels from last year's record.

Unlike last season, when the average price received by farmers peaked in September, monthly average prices received by farmers are expected to follow a more normal seasonal pattern in 1998/99, hitting seasonal lows during harvest (June through September) then increasing to reflect carrying charges. Wheat prices will likely remain under pressure for this season, barring severe weather or disease problems in the Northern Plains through the end of harvest in September. Also, production prospects for corn and soybeans will have a significant impact on wheat prices.

Domestic feed and residual use of wheat is projected to increase sharply this season as lower wheat prices make wheat feeding of livestock more attractive. Even with the larger wheat feeding, ending stocks are forecast to hit 868 million bushels, the same as the 1990's high set in 1990/91. Since food use and exports will rise only modestly, wheat must compete as a feed grain to avoid further increases in ending stocks. U.S. exports in 1997/98 are expected to be up slightly as competition in the world market will continue to be keen because of large world supplies.

U.S. Wheat Supplies Expand To 11-Year High

Total U.S. wheat production in 1998/99 is forecast at 2.52 billion bushels, 9 percent above the USDA forecast in June 1998 and nearly unchanged from 1997/98. The record yield offsets lower harvested area in 1998—farmers switched to crops with higher expected returns and left more land fallow. With larger beginning stocks, however, and steady year-over-year imports, the U.S. wheat supply in 1998/99 (June-May) is forecast to rise 9 percent to 3.34 billion bushels, the highest level since 1987/88.

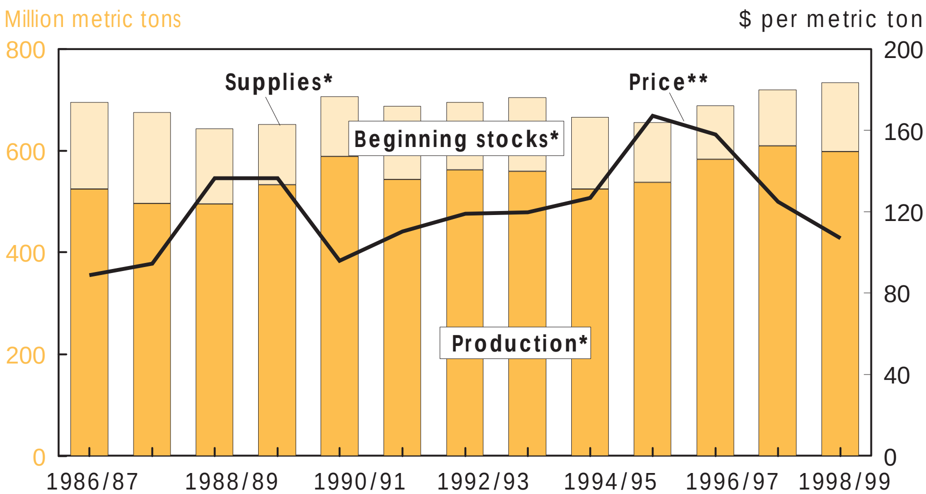
In the Southern Plains, a mild winter and warm spring weather have pushed the winter wheat harvest ahead of normal. As of July 12, 76 percent of the winter wheat crop was harvested, well above the 5-year average of 63 percent. Kansas was 98 percent completed, compared with an average of 82 percent. The Kansas Agricultural Statistics Service recently reported that protein is averaging 11.5 percent this year, compared with 11.8 percent last year and a 10-year average of 12.4 percent. Test weights have averaged 61.5 pounds per bushel, compared with 60.6 pounds last year and a 10-year average of 59.8 pounds. Since average protein content of hard red winter (HRW) wheat is reportedly below normal, price premiums for high-protein wheat will be strong this year.

Production prospects for HRW wheat continued to improve during June, especially in Kansas and Oklahoma, with yield forecasts based on July 1 conditions up 10 bushels and 4 bushels per acre, respectively, from the June forecasts. Total HRW output is forecast at 1.18 billion bushels, up 19 percent from the June forecast and 5 percent above 1997. HRW is used in a wide variety of products, particularly bread, and is expected to account for about 43 percent of total U.S. wheat use in 1998/99.

Soft red winter (SRW) wheat production is forecast at 451 million bushels in 1998, down 33 million bushels from last year. Quality is a major concern in the Corn Belt, particularly southern Illinois, where excessive rainfall during the spring will likely lead to scab and vomitoxin problems. These problems will be monitored closely as the new crop comes onto the market. SRW is forecast to account for about 18 percent of both U.S. wheat production and use.

Commodity Spotlight

U.S. Wheat Prices Fall As World Supplies Build



1997/98 estimated; 1998/99 forecast.
*Aggregate of local marketing years. **U.S. season-average farm price for all wheat.
Economic Research Service, USDA

White winter wheat production (mostly soft wheat) is forecast at 268 million bushels, down 4 percent from 1997 due to fewer acres planted. Washington, Oregon, Idaho, and Michigan account for most U.S. white wheat production.

According to the June 30 *Acreage* report, farmers seeded 3.7 million acres to durum wheat, up 14 percent from last year but down 375,000 acres from the March planting intentions. Based on July 1 conditions, production of durum wheat in the U.S. is forecast to total 126 million bushels in 1998, up 46 percent from 1997. This production level, coupled with a sizable expansion of durum acreage in Canada and larger crops in the European Union (EU) and North Africa, will reduce the price premium over other wheat commanded by durum in recent years.

The "other" spring (non-durum) wheat crop is forecast to decline 11 percent in 1997/1998, primarily reflecting a smaller planted and harvested area as farmers either fallowed the land or shifted acres to durum wheat, soybeans, and other field crops. The June 30 *Acreage* report indicated that planted and harvested acreage of other spring wheat declined about 20 percent from last year. Farmers will harvest about 15 million acres in 1998. Based on July 1 conditions, production of other spring wheat is forecast to total 498 million bushels in 1998. The first survey-based forecast indicates an average yield of 33.5 bushels per acre for other spring wheat, compared with 29.9 bushels last year. As of July 5, 69 percent of the spring wheat crop had already produced heads, compared with a 5-year average of 45 percent.

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World Wheat Yield Also a Record

World wheat production is expected to decline in 1998/99 as falling wheat prices discouraged plantings, but smaller total area will be partly offset by a forecast record global yield. Larger crops in some major importing countries are expected to reduce global imports. Only a small reduction in global stocks is expected. Wheat stocks in several key countries, especially China and the U.S., are relatively large.

Despite a 2-percent drop in area, world wheat production in 1998/99 is projected to reach 601 million tons, down only 1.5 percent from the previous year's record. Global area is forecast down 4.7 million hectares, mostly in the Newly Independent States of the former Soviet Union (NIS), the U.S., and Canada. NIS area is expected to drop 2.2 million hectares because of low prices, difficulty marketing last year's crop, and weather-delayed spring wheat planting. In the U.S. and Canada, relatively low prices have led to wheat area shifting to other crops, especially oilseeds, decreasing 1.8 million and 0.8 million hectares. Argentina, Brazil, and Eastern Europe are also expected to shift area out of wheat and into more profitable crops. However, wheat area is expected to increase for several major producers, including the European Union (EU), Turkey, and Australia, where good profits in recent years have encouraged expansion.

A record average world wheat yield is expected in 1998/99, as generally favorable growing conditions for winter wheat have prevailed across the Northern Hemisphere. Only a few major wheat producers have harvested their 1998/99 wheat crops, so global yield projections are very tentative at this stage. However, most large wheat-producing countries are expected to have good yields. The global average is slightly higher than in 1997/98 when some countries, like China and Argentina, had exceptional yield growth, and others, such as North Africa and Australia, faced weather-driven yield losses.

World wheat supplies in 1998/99 are forecast up because beginning stocks are expected to increase by 22 million tons, offsetting production declines of 9 million tons. Wheat supplies in 1998/99 are expected to increase in China, the U.S., the EU, North Africa, Turkey, and Pakistan, while declining in Canada and Argentina.

Global beginning stocks in 1998/99 are forecast to reach 133 million tons, the largest since 1994/95. Stocks are building because of record world wheat production in 1997/98. Beginning stocks in 1998/99 are projected up in most of the world's largest wheat-producing nations, including China, the U.S., the EU, India, Eastern Europe, and the NIS. Canada is an exception, with sharply lower stocks than a year ago because of smaller 1997/98 production and strong exports.

World wheat consumption is expected to exceed production slightly, reaching 603 million tons, an increase of 15 million tons from the previous year. Major events around the world, such as the Asian macro-economic crisis, are not expected to create large shifts in human wheat consumption, and lower world wheat prices are unlikely to spur large increases in the use of wheat for food. However, use of wheat as an animal feed is forecast to increase.

U.S. Export Share To Grow

Several key wheat-importing countries are expected to reduce or maintain imports unchanged because of increased domestic supplies and a reduced sense of urgency to hold wheat, given low world prices. China is expected to maintain minimal wheat imports. Even though wheat production in China is forecast down from last year's record, it is still expected to be larger than domestic consumption, adding to already burdensome stocks. Moreover, China's central government has announced it will not pay as much as it has in the past for provinces to purchase and store wheat. Combined with last year's record crop, the new policy has put downward pressure on wheat prices.

India's wheat production is also down from last year's record but larger than earlier anticipated. Given large government procurement and stocks, imports are expected to drop. Record yields and production are expected to cut import needs by Pakistan, a key market for U.S. white wheat. Production in North Africa is expected to rebound somewhat from devastating drought in 1997/98; imports, including durum, are expected to decline. The EU has increased its durum area, and yield prospects are much improved from last year. Thus, the EU is forecast to reduce imports. Eastern Europe and the NIS are not expected to increase imports, despite sharply lower production, because stocks are high, domestic demand is weak, and foreign exchange limited.

Wheat imports are expected to see robust growth in Latin America and the Middle East and a slight increase in Eastern Asia, but this growth will be more than offset by reductions in other markets.

Although world wheat trade is expected to decline 2 percent, U.S. wheat exports are forecast up 4 percent to 29 million tons in 1998/99 (July-June). Reduced exports from several competitors are expected to increase U.S. market share over the previous 2 years, but the share would remain below most other years.

Will the Asian Financial Crisis Affect 1998/99 U.S. Wheat Exports?

The Asian financial crisis is likely to have only a small effect on U.S. wheat exports in 1998/99. Only a small portion of the U.S. wheat export market is at stake in the countries most affected by the financial problems in Asia. South Korea, Thailand, Malaysia, the Philippines, and Indonesia together accounted for only 11 percent of U.S. wheat (grain) export volume in 1997/98. These countries also accounted for 12 percent of global wheat imports.

Despite stagnant or declining incomes, changes in per capita wheat consumption in the region are expected to be small. Most of the region's wheat imports are used for noodles or rolls and bread. In South Korea, Thailand, Malaysia, and even the Philippines, smaller incomes and higher prices (in local currencies) have not led to a shift by consumers away from noodles to rice, tubers, and other grains. (However, there probably is some shifting away from bread, rolls, and other baked goods.) In fact, Thailand and the Philippines are forecast to have record wheat imports in 1998/99, with lower priced feed wheat from Eastern Europe accounting for some of the increase in the Philippines. Malaysia's wheat imports are forecast near record. Large world supplies are lowering global wheat prices, making imports more affordable.

The net effect of the crisis on per capita food use of wheat is expected to be much smaller than for higher priced items like meat or the feed grains used to produce meat. Reduced incomes may actually prevent consumers in the region from shifting from staples, such as wheat-based products, to meats, fruits, and vegetables. And when GSM credits (U.S.-backed guarantees) are made available to a country like South Korea, with some of it earmarked for wheat, it is possible that the U.S. share of that wheat market could increase.

Because Australia dominates the Indonesian market (i.e., the U.S. market share is small), any change in imports would affect the U.S. indirectly as Australian grain becomes more available for other export markets. Indonesia's wheat consumption could be the most affected, because it is most seriously affected by economic and political problems, and has a relatively low per capita income level. Government intervention to import wheat and moderate domestic prices has prevented flour prices from rising as much as expected given changes in the exchange rate. Consequently, Indonesia's imports are projected to remain steady at 4 million tons in 1998/99.

In Japan, it is very unlikely that economic problems are having a measurable effect on wheat consumption. Income levels are high enough that eating noodles or rice is not a budget issue, but entirely a matter of taste and preference. Japan is a major wheat importer—the world's second largest in 1997/98.

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Canada's exports are expected to drop 22 percent because of reduced supplies, especially of high-protein bread wheat. Canada's cutback should open opportunities for increased exports of U.S. hard red spring wheat and high-protein hard red winter wheat. Argentina is also expected to provide less competition for U.S. wheat, especially late in the U.S. marketing year, as reduced 1998/99 supplies in Argentina lead to lower exports.

The EU and Australia are expected to increase wheat production. The EU is expected to provide increased competition throughout the marketing year, especially in those markets seeking the cheapest wheat.

The mixed picture of competition for U.S. exports will tend to boost price spreads for U.S. farmers between wheat of different classes and protein levels. Reduced competition from Canada, for example, is likely to boost premiums for high-protein hard wheat while increased competition from the EU and Australia is likely to depress soft wheat prices.

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Commodity Spotlight

National Watermelon Promotion Board

Melons: Food for the Angels?

Mark Twain wrote of watermelon in 1894: “When one has tasted it, he knows what the angels eat.” Americans appear to agree with this assessment, as per capita use of watermelon and other melons continues to trend higher in the 1990’s.

Melons are consumed frequently as desserts, snacks, fruit salads, breakfast foods, picnic foods, edible plate garnishes, and in drinks, and are used in many other creative ways (e.g., watermelon salsa). Up until two decades ago, melons were largely seasonal delights that appeared in the market for a few months and then disappeared as late-summer and fall fruit crops were harvested. Today, imports during the winter and early spring help satisfy consumer demand for year-round supplies of melons. In 1997, U.S. consumption of melons reached 8.2 billion pounds—double the 1980 level.

At the grower/shipper level, the domestic melon crop was valued at $836 million in 1997, with cantaloupe accounting for half of the total. The annual retail value of all melons, including imports, likely averages $3 billion-$4 billion.

Melon crops common in the U.S. are of the *Cucurbitaceae* (gourd) botanical family—the family that includes cucumbers, squash, and pumpkins. Cantaloupes are reportedly purchased more often than any other melon. By weight, however, watermelon is the most-consumed melon in the U.S., followed by cantaloupe and honeydew. In addition, several specialty varieties are commonly found in supermarkets, including crenshaw, casaba, Santa Claus (also called Christmas melon), and Persian melons.

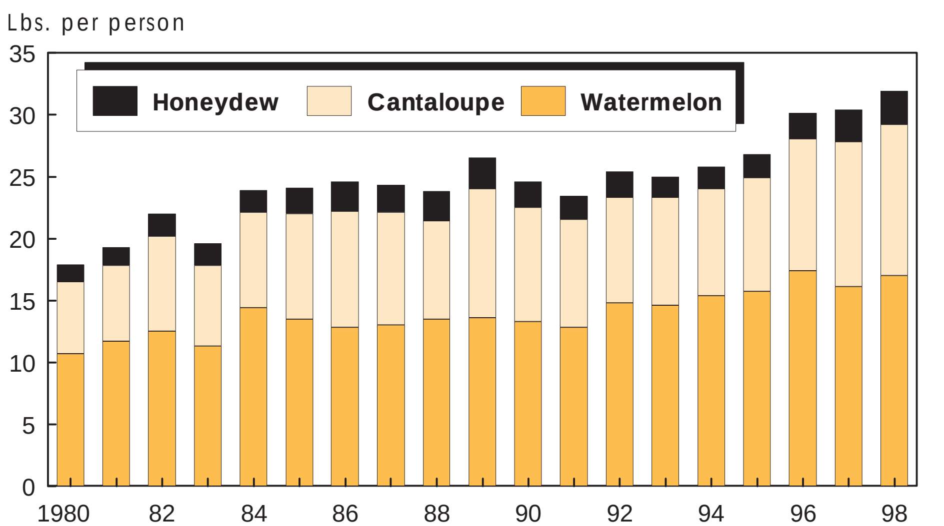
What is referred to as cantaloupe in the U.S. is actually muskmelon. True cantaloupes, common in Europe, lack the characteristic netted rind of the muskmelon and are not grown commercially in the U.S. Within the melon family, muskmelons are part of a group that also includes honeydew, crenshaw, casaba, and Persian melons.

U.S. Melon Use Highest Since Mid-1940’s

Since 1990, per capita melon use has increased 24 percent to 30.4 pounds—the highest since the mid-1940’s, a time when fewer substitutes (e.g., processed snacks and desserts) were available. Consumers have increased use of each of the three major melons, with cantaloupe rising the most. Per capita use of cantaloupe has risen 27 percent since 1990. Cantaloupe, in fact, has been gaining popularity for many years. Consumption of this popular breakfast and dessert melon has doubled since 1980 to 11.7 pounds per capita and is expected to rise again this year.

Watermelons, the largest of all melons, account for slightly over half of U.S. melon consumption. In 1996, watermelon use reached 17.4 pounds per person (the highest since 1958) before falling to 16.1 pounds with a weather-shortened crop in 1997. Despite the short-lived temporary decline in 1997, watermelon use is up 50 percent since 1980. Americans consumed 2.6 pounds of honeydew melons in 1997,

U.S. Per Capita Melon Consumption Has Nearly Doubled Since 1980



1998 forecast.
Economic Research Service, USDA

up from 2.1 pounds in 1990 and 1.4 pounds in 1980.

Melon consumption has been increasing for a number of reasons that include:

- emergence of year-round demand and availability,
- increasing health consciousness among consumers,
- strong economic growth,
- more creative marketing, and
- adoption of improved varieties.

Over the past two decades, as incomes have risen and consumers have become more health-conscious, the demand for fresh fruits and vegetables has increased. As consumers slowly integrated more produce into their diets, demand has risen for year-round supplies of seasonal produce such as melons. The demand has been met during the winter and early spring by increased imports. It is now common to find a variety of melons in supermarkets and at salad bars throughout the year. Nearly half of the increase in U.S. melon consumption since 1994 is accounted for by rising imports.

The economic expansion during the 1990's has also boosted melon consumption, with increased incomes allowing consumers to spend more on meals away from home. The continued prevalence of salad and breakfast bars during the 1990's has familiarized consumers with convenient pre-cut melons. Industry surveys of produce consumers also suggest that consumers with higher incomes tend to purchase a wider variety of produce. This may favor increased consumption of specialty melons like crenshaw and casaba during economic expansions.

In the 1990's, several concepts have gained favor in retail produce marketing. These include pre-cut product displays and instore salad bars. In the case of melons, this type of marketing tends to appeal most to small households that might not otherwise purchase whole melons. Also, increased consumer information in the produce department (nutritional information, recipe tips, point-of-purchase advertising, and colorful displays) may be influencing purchases.

Strong promotional efforts by industry groups like the National Watermelon Promotion Board and the Produce for Better Health Foundation—which runs the national 5-A-Day for Better Health program in cooperation with the National Cancer Institute—have likely helped educate children and adults on the nutritional merits of vegetables and fruits, including melons. Melons are excellent sources of vitamin C. In addition, cantaloupe (and watermelon to a lesser extent) is a good source of beta-carotene and also contains potassium, iron, and some fiber. Although honeydew and casaba melons contain less vitamin C than cantaloupe, they are still excellent sources, and also provide potassium, iron, and dietary fiber. Watermelon contains small amounts of lycopene, a color compound found in heavy concentrations in tomatoes and thought to be a deterrent to some forms of cancer.

Finally, the industry has improved the products offered to consumers through better harvesting and handling (ensuring more consistent melon quality) and the introduction of new hybrid varieties (better flavor). For example, cantaloupe producers are continuing to adopt new varieties that provide consistently high sugar content (called soluble solids). Cantaloupe growers have also increased quality by switching from shed packing to placing fruit directly into shipping boxes in the field, which reduces handling and scuffing. Melons are also now moved quickly from the field to cooling rooms prior to shipping to maintain maximum quality and shelf life.

For watermelon, improvements in quality and availability of seedless and smaller icebox varieties have helped spur demand. The popularity of seedless watermelon has been on the rise over the past decade. According to industry sources, seedless watermelon is more popular in the West (particularly California), with seeded watermelon heavily favored in the South. Most other regions favor seeded varieties slightly more than seedless. Production of seedless watermelons requires that about a third of the area in a field be planted to seeded varieties, which act as pollinators for the sterile seedless varieties. Proponents of seeded varieties can thus rest assured that seeded watermelons will always be available.

Is It Ripe?

Melons have drawn the ire of consumers in the past because of perceptions of poor quality. Undoubtedly some of these perceptions were related to the presence of immature melons in the store. Consumers can lessen the chance of taking home a melon that tastes like a cucumber by following a few simple rules.

For watermelon, the industry suggests consumers choose a melon that is symmetrical and free of bruises, cuts, and dents. The melon should be heavy for its size, and the rind should have a healthy sheen. The key test is to turn the melon over and check the color of the underside (where the melon was touching the ground). The underside of a ripe watermelon should be pale or creamy yellow.

A good-quality cantaloupe will be free of defects and will be firm except around the stem end, which should be a bit softer and have some give. The keys to ripeness can be found on the stem end. When cantaloupes are ripe in the field, they "slip" from the vine when pulled at harvest, leaving a fairly smooth stem end. A melon at room temperature should have the characteristic sweet melon smell at the stem end.

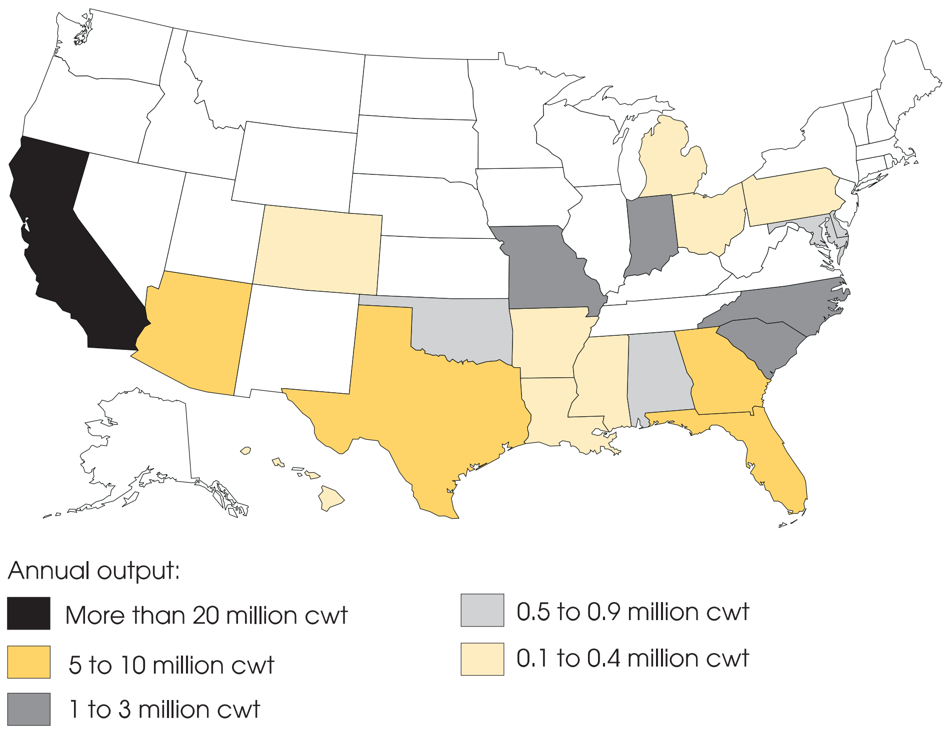
Determining the ripeness of a honeydew melon is a bit more difficult since the clues are harder to spot. A ripe honeydew melon should have a rind that is fairly firm (not hard), is free of defects, has a waxy feel, and is a creamy yellow color. The stem end should have some give and should emit a sweet melon aroma.

Southern Climate Favors Melon Production

Requiring a long, frost-free growing season for optimal yields, melons are grown principally in the southern half of the Nation. California, Texas, and Arizona are the only States that commercially produce all three major melon varieties. The top five States account for 84 percent of U.S. melon production.

Commodity Spotlight

Melon Production Is Concentrated in the Southern U.S.



Economic Research Service, USDA

California, the leading melon producer with 35 percent of the crop, ships melons from May through November. California is the Nation's top producer of cantaloupes (60 percent of the crop during 1995-97) and honeydews (74 percent), and is the third leading producer of watermelons (17.6 percent). About 54 percent of California's melon crop consists of cantaloupes.

Texas, the second leading producer of melons, grows 15 percent of the crop. Texas ships melons largely during May-July, except for watermelons, which are shipped through December. Texas is third in cantaloupe and honeydew production and is the fourth leading producer of watermelons. Cantaloupe and honeydew production is concentrated in the lower Rio Grande Valley and the Trans Pecos region, while watermelon is grown in several areas of the State.

Georgia produces watermelon and some cantaloupe and accounts for 13 percent of the U.S. melon crop. With improved yields the past few years, Georgia has become the second leading producer of watermelons (18.2 percent of the crop) and produces 5 percent of the Nation's cantaloupe. A majority of the melon acreage is concentrated in the south-central area of the State.

Florida produces 11 percent of the U.S. melon crop with most production in watermelons. While it is traditionally the Nation's leading producer of watermelon (18.3 percent of the crop), Florida's acreage in other melons is limited. The State's shipments peak in May and June. Output is spread over more than 30 counties, but southern counties account for about 40 percent of the crop.

Arizona completes the top five, producing 10 percent of the U.S. melon crop. Arizona is the second leading producer of cantaloupes, with 22 percent of the crop. The State harvests a spring and a fall crop of both honeydews and cantaloupes; shipments run from May through November and volume peaks in early summer.

According to the National Watermelon Promotion Board, a recipe for watermelon rind pickles (a product still popular in the southern U.S.) was included in the first American cookbook published in 1796.

Imports Round Out Seasonal Availability

China is the leading producer of melons, accounting for 46 percent of the world total, followed by Turkey (9 percent) and Iran (5 percent). The U.S. is fourth, with close to 5 percent of output.

World per capita use of melons in 1996 was estimated at 24 pounds. Among the top 15 producing countries, Turkey has the highest per capita use at 223 pounds. Israel is second at 179 pounds, followed by Greece at 150 pounds. The U.S. is 41st.

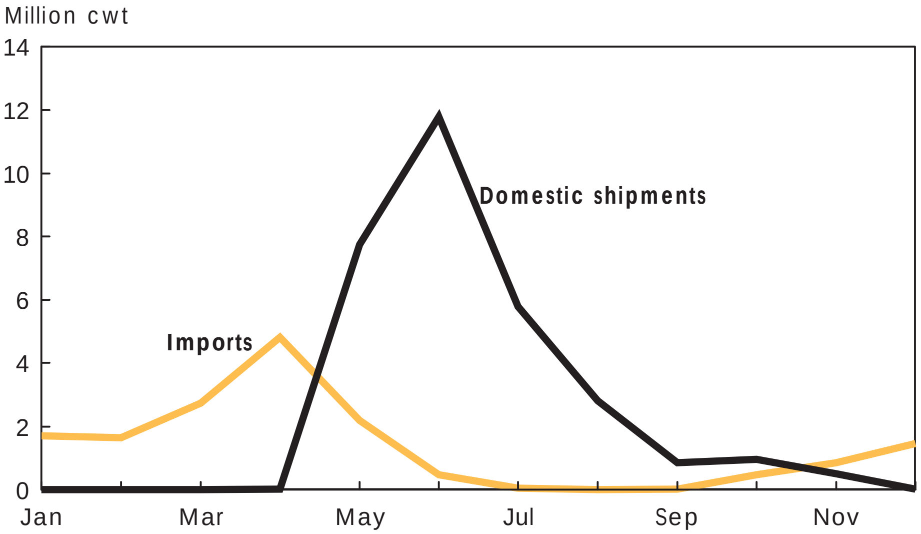
Watermelon accounts for the largest portion of melon use in the world. Although most watermelon is prized in the U.S. for the sweet melon flesh, it has varied uses in other countries. Roasted watermelon seeds are popular in parts of Asia. Also in Asia, watermelon seeds are sometimes ground into a type of cereal product to make bread. In Russia, watermelon juice is fermented to make alcoholic drinks. In many areas of the developing world, melons of all types are routinely used as animal feed.

The bulk of world melon trade tends to be concentrated within regions, due largely to the cost of transportation (melons are bulky) and competition from local suppliers. The Food and Agriculture Organization of the United Nations reports that only 4 percent of world melon use comes from import sources. Imports of cantaloupe and other melons account for 7 percent of use while only 3 percent of world watermelon use originates from foreign sources. In 1996, world melon trade was valued at $1 billion.

Imports complement U.S. domestic output to provide consumers with melons year-round. Average temperatures in most areas of the U.S. are too low for reliable production of melon crops during the winter and early spring months. From December to April, U.S. melon use depends almost entirely on imports. Imports accounted for 20 percent of

Commodity Spotlight

Imports Ensure Availability of Melons in Winter and Early Spring



Economic Research Service, USDA

year-round U.S. consumption in 1997, up from 14 percent in 1990 and 10 percent in 1980.

Proximity to low-cost producers in Mexico and Central America, combined with strengthening off-season domestic demand (winter/early spring), has made the U.S. the world's leading melon importer. A net importer of melons, the U.S. accounts for 25 percent of the world's melon import volume—15 percent of watermelon imports and 34 percent of global imports of cantaloupe and other melons. U.S. imports were valued at $230 million in 1997, with cantaloupe accounting for the largest share at 58 percent.

Mexico provided 54 percent of the total volume of U.S. melon imports in 1997. Among the nations covered by the Caribbean Basin Initiative (CBI) are other major sources—Honduras (17 percent of the U.S. market), Guatemala (11 percent), and Costa Rica (11 percent). Under the CBI, signed into law in 1983, melons imported from member nations enter the U.S. duty-free.

Most melons from Mexico enter during the duty-free period set by NAFTA (mainly December-April), when U.S. production is largely nonexistent. However, some Mexican melons enter during the tariff-protected periods in late spring and summer. The high pre-NAFTA inseason tariffs for melons other than watermelon (as high as 35 percent ad valorum) are now being phased out over 15 years (until 2008). For watermelon imports, a declining tariff (20 percent at the start of NAFTA implementation) as well as a safeguard quota (not filled as yet in any year) are in effect during the main U.S. season (May 1-September 30).

From the early 1980's until 1994, Mexico had been steadily losing share of the U.S. cantaloupe and honeydew markets to CBI nations. However, during the past few years, Mexico's share of these markets has increased despite intense competition from several CBI nations. In 1993, Mexico claimed 47 percent of all U.S. melon imports, and by 1997 its share had risen to 54 percent.

The Mexican melon sector is hamstrung by low yields, while several Central American countries (especially Costa Rica) have benefited from foreign and domestic investment in modern production methods. Despite lower yields, Mexico has regained market share, largely because the 1995 peso devaluation and tariff reductions under NAFTA helped offset the cost advantage enjoyed by more efficient competitors.

While U.S. melon imports have risen 82 percent since 1990, exports have doubled, totaling $80 million in 1997. Exports now absorb 5 percent of the U.S. melon supply—up from 4 percent in 1990. Canada accounts for 90 percent of U.S. melon exports, with Japan a distant second at 5 percent. Rising U.S. melon exports to Canada reflect the similarities in consumption trends between the two countries.

The potent combination of improved varieties, year-round availability, enterprising promotion, and nutritional savvy among consumers—both in the U.S. and Canada—favors continued expansion of melon demand into the new millennium.

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Upcoming Reports—USDA's Economic Research Service

The following reports will be issued electronically on dates and at times (ET) indicated.

August

13 *Cotton and Wool Outlook (4 p.m.)***
*Feed Outlook (4 p.m.)***
*Oil Crops Outlook (4 p.m.)***
*Rice Outlook (4 p.m.)***
*Wheat Outlook (4 p.m.)***
17 *Livestock, Dairy, & Poultry (3 p.m.)*
20 *Agricultural Outlook**
U.S. Agricultural Trade Update (3 p.m.)
26 *Fruit and Tree Nuts**
28 *Agricultural Exports**

**Release of summary, 3 p.m.*
***Available electronically only*

World Agriculture & Trade

Debra Tropp

Mexican Supermarkets Spur New Produce Distribution System

The Mexican produce distribution system is in the midst of major structural change. Although small, specialized produce shops or stalls account for the bulk of consumer produce purchases, supermarket chains are rapidly gaining market share.

Supermarket growth in Mexico is explosive: the number of stores has leapt from less than 700 in 1993 to 3,850 in 1997. The pace is continuing with several new store openings scheduled each week. Convenience stores that retail fresh produce are also expanding rapidly. Combined, these recent developments are changing the way produce makes its way from the farm to the consumer—the rapid rate of innovation at the retail level is forcing changes in the distribution chain.

Mexican firms are constructing state-of-the-art supermarket chains that are challenging the capacity of the produce distribution network. Truck fleets, wholesale markets, packers and shippers, and farmers are all trying to adapt to new demands. A similar transformation occurred in U.S. produce markets following the Second World War. The development of the produce distribution system in Mexico will not replicate the evolution of the U.S. system, but there are and will be many similarities.

The contemporary supermarket is the product of almost 70 years of adaptation to continuous innovations in infrastructure, technology, and management. The supermarket was created August 4, 1930, when the first King Kullen store opened in Jamaica, New York. Supermarkets distinguished themselves from earlier retail food establishments by offering self-service shopping; separate departments for produce, meat, bakery, and other grocery items under one roof; discount pricing; a centralized distribution system; and large-volume procurement.

The dramatic growth of supermarkets in the U.S. in the 1930's and 1940's coincided with the rapid rise in automobile and refrigerator ownership. Automobiles made it possible for consumers to carry larger purchases home over longer distances, and created competition with smaller neighborhood retailers. Household refrigeration enabled consumers to keep food in storage for longer periods of time, enabling household members to shop less frequently, perhaps only once or twice a week for highly perishable items such as fresh fruits and vegetables.

Supermarkets have existed in Mexico for decades, but until the 1980's they were few and catered principally to upper-income households and expatriates. Consequently, they have had an upscale, high-price image. The success of the recent expansion is the result of extending the customer base to lower-income households.

Most Mexicans purchase produce in stall-like shops in municipal markets (41 percent) or from produce carts that set up in neighborhood street markets, *tianguis* (20 percent). Unlike supermarkets, these are not self-service operations: the consumer asks for a kilo of tomatoes and the proprietor selects and weighs the product. The customer and the proprietor often know each other, so there is a social element to the exchange. Although most urban households have refrigeration, produce tends to be consumed within a day of purchase. Consequently, these shops stock ripe produce and their customers shop several times a week.

Supermarkets present a radically different shopping experience. In Mexico, supermarkets, called *tiendas de autoservicio*, are literally self-service stores. Some

Major Supermarkets Show Rapid Growth in 1990's

Company	Outlets 1993	Outlets 1997	Annual growth rate
	Number of stores		*Percent*
Gigante	180	192	1.7
Cifra	114	372	56.6
Comercial Mexicana	120	147	5.6
Casa Ley	42	72	17.9
Soriana	23	53	32.6
Chedraui	20	27	8.8

*Includes other new stores not recorded in 1993.
Sources: 1993, "Retail Food Stores: Handbook for Exporting to Mexico"; 1997, "Sistemas Agroindustriales en Mexico: Indicatores, Situacion Actual, Tendencias."
Economic Research Service, USDA

supermarket produce is prepackaged and sticker-priced, but most is displayed in bulk and weighed at the check-out. Although there are produce personnel on the shop floor, a supermarket transaction is anonymous compared with a traditional market. Some Mexican consumers find this intimidating, particularly those who have recently moved to the city from the countryside.

There is strong competition between supermarkets and traditional markets. As in the U.S., supermarkets place newspaper advertisements to draw customers into the store during the midweek lull in volume. In Mexico, a second objective is to convert traditional shoppers into supermarket shoppers. One chain even bills its weekly sales as "*tianguis* days" to emphasize the low, street-market prices and to expand its customer base.

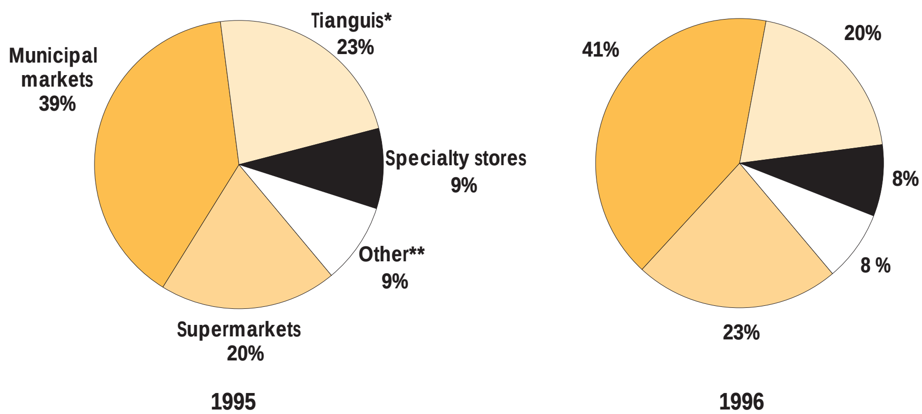
Because it is price-sensitive and purchased frequently, produce is a common loss-leader, and featured prices are often below wholesale costs. Supermarkets recoup the negative margin on featured produce if customers make other, nondiscount purchases and become regular customers. Small produce stalls cannot afford to match the chains' produce discount, and their market share is gradually eroding.

Forging a New Supply Chain

The emerging marketing system is changing not only the kinds of produce demanded by Mexican households, but its quality, consistency, packaging, and handling. The development of U.S. supermarket chainstore operations in the 1950's and 1960's was spurred in part by infrastructure development. The U.S. interstate highway system and the growth of refrigerated truck transportation freed produce shippers from dependence on railroads and allowed deliveries to facilities outside central market districts. This enabled chain stores to build their own distribution centers and accommodate high-volume direct shipments from producers under central inventory control.

Chains benefit from economies of scale in storage, distribution, and marketing. The higher a firm's sales volume, the more widely it can spread its fixed costs. Greater sales volume also yields more

Supermarkets Garner a Growing Share of Mexico's Produce Markets



*Produce carts set up in neighborhood street markets. **Includes "corner" stores.
Source: Food Marketing Institute, "Trends in Mexico: Consumer Attitudes and the Supermarket, 1996."
Economic Research Service, USDA

predictable demand and lower inventory risk. However, to realize these efficiencies, chain stores need a guaranteed flow of consistent quality produce to serve consumer demand. For a tightly managed inventory system to work, the entire supply chain must be coordinated. So chain stores are willing to pay a premium for these services.

Chain stores ensure quality control by contracting directly with a grower/shipper's sales agent or a produce broker to have product shipped directly to their private distribution centers, rather than obtaining products from local wholesale markets. By internalizing wholesale services within the firm, they are able to avoid the extra costs and time associated with obtaining produce through an intermediary.

As direct procurement by chains expands, the share of produce flowing through central wholesale markets declines. In the U.S., the central wholesale share has stabilized around 30 percent, although increased demand for specialty, organic, and "ethnic" produce has recently raised the share slightly. Mexico is entering a stage in which the wholesale share will decline rapidly. However, because consumption growth is so robust, the absolute volume of wholesale shipments may not fall.

Pressure To Upgrade Packing

Chain stores drive down costs at all links in the distribution chain. One focus of efficiency gain is reducing the proportion of produce that must be discarded because of damage or poor quality. Good quality control at the farm and packer/shipper level generates savings for the rest of the distribution chain—no one wants to haul poor-quality produce to an urban distribution center only to have to throw it out. Thus, the demand for predictable quality generates a demand for better sorting, packing, and shipping.

In the U.S., produce packing evolved through several stages. Bulk hauling in large wooden crates or jute sacks first shifted to smaller standardized wooden crates, then to fiberboard cartons. Cartons are generally cheaper, provide superior protection, and yield fewer losses. The next innovation (unitization) placed cartons on standard-sized pallets. This allowed the use of forklifts, reducing loading times, product losses, and labor costs. Unitization is widespread in the U.S., although not universal.

In Mexico, in contrast, unitization is the exception rather than the rule. Produce that is primarily exported, such as vine-ripe tomatoes or bell peppers, faces the scrutiny of major chain buyers in the U.S., Europe, and Asia, fueling substantial investment in state-of-the-art sorting, handling, and packing technology. Export tomatoes, for example, are exactingly sorted for size, color, and quality. They are packed in high-quality cases; stacked on pallets; and chilled, stored, and shipped in controlled atmosphere containers. Mexican apples are also immaculately packed because of direct competition with imports from the U.S., Canada, Chile, and New Zealand.

Products that are not principally exported or do not face import competition are usually less well sorted and packed. Product losses are unnecessarily high and much of the cost of sorting is shifted from areas near the farm with low labor costs to higher cost areas in town.

Mexican Government Assists Transition

In the U.S., the legal and regulatory infrastructure for produce marketing developed under the umbrella of various USDA agencies, particularly the Agricultural Marketing Service. In Mexico, regulation of the supply chain is divided between two ministries: SAGAR—the Ministry of Agriculture—responsible for production agriculture, and SECOFI—the Ministry of Commerce—responsible for agricultural marketing from the farmgate to the consumer.

SECOFI has been working with ANTAD, the Mexican supermarket trade association, to develop industrywide standards for produce grades, cartons, and packages. SECOFI is also establishing information networks to better integrate state-level and regional markets. The central market of Mexico City plays an unusually large role in matching supply and demand among provincial markets. It is common for produce to be shipped to Mexico City only to be purchased for use in a market close to the production region. This “product tourism” through Mexico City results in unnecessary transportation costs and shipping losses.

Mexico City’s central market may dominate because it has sufficient liquidity to ensure that a shipment will be sold promptly and paid for in a timely manner. The growing market for produce quality should attract investment by independent packer/shippers, but uncertainty about dispute settlement between farmers and shippers may be inhibiting investment at this stage of the supply chain. An improved system of payment and dispute resolution may reduce product tourism and encourage independent packer/shippers.

In the U.S., the Perishable Agricultural Commodities Act (PACA) requires commercial buyers and sellers of fruits and vegetables to be licensed and makes contract disputes subject to arbitration. Licenses are revoked if traders do not honor their commitments. In Mexico, business is often conducted with a handshake; however, commerce over longer distances makes one’s word of honor vulnerable to opportunism. The use of formal contracts will likely expand further into the countryside.

As SECOFI works with the supermarket industry and its supply chain, SAGAR is developing programs to help smaller farmers adapt to these new demands of the retail sector. The equipment required to efficiently sort and pack is often very expensive. Credit is also expensive, so only larger, well-capitalized farms and firms have been able to deliver consistent quality to supermarkets. Smaller farms do not, individually, ship enough produce to justify such investments. Consequently, they are at an increasing disadvantage as the demand for quality expands. Unlike in the U.S., marketing cooperatives are not widespread in Mexico, nor has incorporation been common among smaller farms.

The universal pattern of industrialization has been that most smaller scale farmers are forced off the land and into manufacturing and service occupations. This is a difficult transition and many countries have tried to moderate the process through agricultural and rural development policies. In Mexico, despite many policies to ameliorate conditions in the rural economy, the supermarket revolution will likely hasten agricultural consolidation.

Implications for International Trade

A long-term expansion in the volume and value of produce trade between the U.S. and Mexico reflects the continuing integration of the two economies. The trade flows are complementary with regard to season and reflect the growing demand for year-round supplies of fruits and vegetables. The bulk of Mexican exports to the U.S. are in the winter, and the bulk of U.S. exports to Mexico are in the summer and fall.

U.S. producers may have a window of opportunity for supplying Mexican supermarkets with the quality and consistency of produce the Mexican distribution system cannot yet deliver. Systems of quality assurance and a secure cold chain of refrigerated shipping have emerged in Mexico, but only in certain sectors. For example, packaged, prewashed salads imported from the U.S. have become popular in Mexico; concerns about food safety have raised the demand for packed salads. At the moment, U.S. firms are the primary suppliers of this product and the services and quality it embodies.

Further integration of the produce systems of North America should yield more strategic alliances between U.S. and Mexican retail chains; a fully integrated truck and rail network; harmonization of produce standards, contracts, and dispute resolution; and greater complementary trade.

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Research & Technology

Dennis Shields

Hard White Wheat: Changing The Color of U.S. Wheat?

Many U.S. wheat breeders are now making a concerted effort to develop hard white wheat (HWW) varieties, which account for less than 1 percent of U.S. wheat acreage. Kansas State University (KSU), for instance, is devoting about 75 percent of its wheat breeding program to white wheat, up from 10-25 percent in the 1980's. This fall, KSU is planting foundation seed of two new varieties for possible release next year (the release was originally scheduled for this fall). Other States, such as Idaho, Washington, Colorado, Montana, and Nebraska, are devoting at least 20-40 percent of their breeding programs to HWW as well.

HWW plays a strategic role in these State breeding programs because of its end-use characteristics. According to extensive university and industry studies, HWW is regarded to have superior milling and breadbaking characteristics to hard red winter wheat (HRW) because of HWW's higher milling extraction rates (i.e., more flour per bushel of grain milled to the same color standards), less bitter aftertaste for whole-wheat bread, and color qualities preferred by some consumers. These end-use features appeal to both domestic and foreign wheat buyers, providing potential markets for wheat farmers growing HRW.

The development of promising varieties has raised speculation about whether wheat growers in Kansas and elsewhere in the Great Plains might make a dramatic switch from hard red to hard white and the consequences for the U.S. wheat industry. Some breeders expect HWW acreage to expand rapidly because of its higher milling extraction rates and better quality characteristics. Nonetheless, there are both agronomic and economic questions that will determine the speed and extent of its adoption.

Will HWW remain a niche product or will it become a major new class of wheat? For farmers, the most critical questions are how it yields and what are the price premiums relative to competing classes of wheat. Trial yield tests indicate that the two new KSU HWW varieties produce 3-4 bushels more per acre than the State average. The trial yield is comparable to trial yields of some of the State's most popular HRW varieties. This yield advantage should encourage a wider adoption of these new HWW varieties than those released in the early 1990's, which did not yield as high as then-existing HRW varieties. Results from actual farm experience will be needed to verify yield advantages achieved at the experiment stations.

U.S. farmers will adopt any new product if it increases net returns or proves to have other advantages. This is amply demonstrated in the cases of Roundup Ready soybeans and Bt corn. HWW adoption promises to be slower because it must establish its advantages with users as well as growers and provide economic incentives across the board.

Acreage of genetically modified crops has soared in the first 3 years of adoption.
Special Article, page 21

To avoid price discounts assessed to "mixed" wheat, the HWW would have to be kept separate from other classes because mixing would (1) eliminate the extraction rate advantage, and (2) possibly lower the grade if the level of "contrasting classes of wheat" exceeds the limit. Segregation may be costly initially, but it would be less so as elevators handle larger volumes of HWW. For example, farmers and elevators in barley areas routinely separate feed barley from malting barley.

Another question revolves around end-users' willingness to pay more for the wheat. While there are potential niche uses for HWW, prices will be shaped by the market and be influenced by other classes of wheat. If HWW expands beyond the specialty level, costs will be drawn down by larger volumes and economies of scale.

Current Status: Production Contracts Preserve HWW Identity

Based on a compilation by USDA's Economic Research Service, U.S. farmers have increased HWW plantings to 100,000-140,000 acres for harvest in 1998. About half is winter wheat (planted in fall, harvested the following summer) and the rest is spring (planted in spring, harvested in summer). This accounts for only 2-3 percent of U.S. white wheat acreage—just 0.2 percent of all U.S. wheat acreage. (For the top five producing States, HWW accounts for 0.6-0.9 percent of total wheat acreage.) The remaining white wheat is "soft," which lacks the elastic properties necessary for baking pan bread (i.e., loafs) and instead is used for products such as cakes, cookies, flat breads, and some noodles.

Montana, Colorado, Kansas, Idaho, and California account for over 95 percent of total HWW acreage. In Kansas, Colorado, and California, producers plant primarily winter varieties, while producers in Idaho and Montana plant mostly spring varieties.

Behind much of this year's increase in HWW is a cooperative, Pro/Mar Select Wheat, Inc. In an effort to expand its business, it contracted with members to plant 40,000 acres of HWW (Idaho 337S variety—a spring variety) in Montana in 1998.

In Idaho, HWW acreage is estimated to have expanded from 8,000 acres in 1997 to 15,000 acres this year in response to increased market demand. In Colorado, HWW acreage totaled only 7,000 acres in 1996, but expanded to at least 20,000 acres in 1998 as domestic millers contracted with growers at premiums over HRW, reportedly ranging from 25 to 35 cents per bushel.

Most HWW is grown through production contracts and marketed under identity-preserved programs because elevators and millers would discount prices if HWW were mixed with other classes of wheat. For example, Pro/Mar obtained an exclusive right to contract the HWW variety (Idaho 377S) with producers in Idaho when the University of Idaho released it last year. Initially, Pro/Mar restricted production contracts to its member-producers in Idaho. Now it has extended contracts to growers in other States. Pro/Mar has total control over the distribution of Idaho 377S seeds to member-producers, and the purchasing contracts bar farmers from retaining seed for planting the next season (i.e., all HWW harvested must be sold back to Pro/Mar).

Since Idaho 377S must not be contaminated with other varieties at harvest, harvesting equipment must be thoroughly cleaned. HWW must also be segregated from other varieties during handling, storage, and transportation until it reaches the final end-user.

In Kansas, the American White Wheat Producers Association (AWWPA)—a farmer cooperative chartered in 1988 to market HWW—enters into contracts with its members to grow the association's HWW varieties. Growers must purchase certified seed from an AWWPA-certified seed dealer and take measures to ensure wheat quality, such as treatment of disease and insect infestation and growing HWW on summer-fallow land so that it will not be mixed with other classes of wheat. They are also encouraged to grow wheat only in drier areas to avoid sprout damage because HWW is predisposed to preharvest sprouting if too much rain occurs near harvest time and delays harvest. In addition, all fields are inspected by AWWPA and producers are required to submit a 35-pound grain sample from each field after harvest.

In return, producers receive prices above the base price of HRW in Hutchinson, Kansas, depending on the premiums that end-users are willing to pay. In the mid-1990's, the premium was set by the AWWPA at 15 cents per bushel; however, market forces have determined the premium in recent years. Producers are required to sell all HWW production to AWWPA and deliver their wheat crops to a designated receiving point—usually an elevator, but sometimes a flour mill. AWWPA can arrange for hauling the grain, with shipping costs deducted from producer returns.

AWWPA owns no elevators, trucks, flour mills, or baking facilities. Instead, it contracts with flour mills for the milling and packaging of whole white wheat flour and other HWW-based food ingredients (e.g., patent flours, brans, and white wheat bulgar). Total contracted production is 20,000 acres in 1998, which is greater than in previous years. The AWWPA plans to expand contract acreage soon with release of the new KSU varieties.

Montana Is Top Hard White Wheat Producer in 1998

State	Planted acres	Variety	Percent of total wheat area	Data sources
Montana	40,500	Idaho 377S*, Golden 66*, Nuwest	0.71	Pro/Mar Select Wheat, Inc.; Western Plant Breeders; Wheat Montana Farm
Colorado	20,000-50,000	Platte, Solomon	0.67-1.66	Rollin Sears, Kansas State University; AgriPro, Inc.
Kansas	10,000-20,000	Arlin, Oro Blanco, Rio Blanco, KS196, Snow White, Platte	0.01-0.02	Rollin Sears, KSU; American White Wheat Producers Association
Idaho	15,000	Idaho 377S*	1.05	Pro/Mar Select Wheat, Inc.
California	12,000	Klasic	1.82	California Wheat Commission
Oregon	< 2,000	Idaho 377S*	< 0.14	Oregon Agricultural Statistics Service
Others**	750	Winter varieties	< 0.05	State ag statistics services
Top 5 States	97,000-137,000		0.6-0.9	

*Spring variety (others are winter varieties). **Includes Nebraska (579 acres), Oklahoma (100 acres), Washington (50 acres), Wyoming, and Texas.

Economic Research Service, USDA

Like Pro/Mar, AgriPro in Colorado contracts with producers to grow two HWW varieties (Platte and Solomon). HWW wheat produced under the contract is then sold to ConAgra and shipped to its mill in Denver. Premiums in the range of 25-35 cents per bushel are offered to producers in exchange for their efforts to preserve grain identity.

Behind Demand For Hard White Wheat

There are several potential reasons for favoring hard white wheat over hard red wheat. For millers, the white wheat has a flour extraction rate 1-2 percentage points higher than red wheat when both are milled to similar color standards. For consumers, whole-wheat products made from hard white wheat may be more appealing to those favoring whiteness. White bran is less obvious than red bran in flour and food products. In addition, bran from white wheat is used in breakfast and snack-type foods and commands a higher price than bran from red wheat.

U.S. millers can use hard white wheat for most of the same uses as hard red wheat. However, there appear to be three specialty products for which hard white wheat's end-use characteristics are well suited: whole-wheat breads, tortillas, and oriental noodles.

HWW is used to make increasingly popular whole-wheat breads. Bread made from whole HWW flour is lighter colored and less bitter than bread made from red wheat. The bran of white wheat contains less of the phenolic compounds that give whole red wheat bread a stronger, bitter flavor. Thus, less sugar is needed for making whole white wheat bread. Besides the ingredient cost savings, lower sugar content appeals to nutrition-conscious shoppers.

Tortillas are a traditional Mexican flat bread made from either corn or wheat. Corn tortillas predominate in Mexico, while consumption of wheat tortillas exceeds corn tortillas by 2 to 1 in the U.S. Reportedly, U.S. consumers generally prefer bright white tortillas, which may give HWW an advantage over HRW wheat.

Tortillas made from wheat are used increasingly in the U.S. as so-called wraps for a variety of non-Mexican cuisine. This practice began in the mid-1990's in California and has been taken up by the Nation's fast-food industry. This innovative use of tortillas is helping to boost consumer demand for wheat in the U.S., which bodes well for white wheat demand.

Makers of noodle flour in East and Southeast Asia tend to favor white wheat for making certain oriental noodles. U.S. soft white wheat is well suited for making some of these noodles. However, other types require a hard white wheat (with low-level protein, sometimes referred to as "semi-hard" in Asia), of which the U.S. now produces little. Australia wins out because it can supply large quantities of high-quality hard white wheat.

Most Asian noodle manufacturers use a flour made from a blend of wheats based on relative prices and desired end-use characteristics. Color and texture characteristics imparted by Australian white wheats are particularly suited to these blends. Australia currently supplies half of the wheat (including Australian Standard White) for noodle demand in Asia, according to reports from noodle manufacturers in South Korea, China, Hong Kong, Philippines, Taiwan, Singapore, Malaysia, Thailand, and Indonesia.

Noodles made from Australian wheats are renowned for a stable white or yellow color—essential for producing a desirable noodle. Compared with wheats from Australia, U.S. red wheats tend to contain high levels of an enzyme, polyphenol oxidase (PPO), that U.S. researchers found to be responsible for noodle discoloration. Raw noodles (which, along with partially boiled noodles, are preferred by many Asian consumers) made from U.S. red wheats may discolor to green, dark brown, or black within 24 hours of manufacture. The rate of darkening of fresh noodles is important because they might not be consumed for 1 or more days after manufacturing.

The new KSU HWW varieties are expected to compete with mid-protein Australian wheat offerings (Hard, Premium, and Noodle) in international markets. They will have lower protein levels than Australian Prime Hard, but greater than Australian Standard White. According to the foreign offices of the U.S. Wheat Associates, Asia imports more than 400 million bushels of wheat (including Australian Standard White) for making noodles, which accounts for one-half of total wheat imports into Asia. (Asia, including China, accounts for about one-third of world wheat imports.) One of the two varieties of KSU HWW still lacks color stability. U.S. researchers are working on improvements in order to match the quality of Australian wheat for making oriental noodles. For the last several years, Canada has also been working on developing white wheats for the Asian market.

Will HWW Yields Outweigh Higher Marketing Costs?

Expanded HWW production depends upon the economics of adopting new HWW varieties, which, in turn, is driven by market demands for this new class of wheat. The economic forces include yield potential of the new HWW varieties, the price premium offered by the market, and any differences in the costs of production and marketing between HWW and competing classes of wheat. Differences in net producer returns of HWW and the competing class depend primarily on yields and prices, since the costs of production may not be much higher than for HRW on a per-bushel basis.

In Kansas, for example, the new KSU varieties have a yield advantage of 3-4 bushels (per acre) over the average of current HRW varieties based on 1997 trial yield test results. However, it still would take 2-3 years to reach commercial production stage in Kansas when farmers sell grain to be milled. Thus, it will take some time before they can be widely grown to determine farmer acceptance and observe if yield gains on the farm match those in the trials.

It is unlikely that producers will receive more than modest premiums due to marketing expenses associated with keeping white wheat segregated in the HRW-dominated areas. For example, flour millers would have to make some adjustments to their operations—such as separate storage and processing of the grain, and separate milling specification for the higher extraction rate—in order to accommodate a new class of wheat.

Higher flour extraction rates are another driving force for a possible expansion of HWW acreage. The higher flour extraction rates would entice flour millers to accept HWW as a new class of wheat in their milling operation.

Marketing System Must Adapt To Preserve HWW Quality

For HWW production to expand widely, the marketing system will need to preserve the identity of HWW to avoid discounts by buyers. Presently, identity is preserved by controlling plantings—only specific seeds certified by seed companies or farmer cooperatives are permitted for plantings. Producers are not permitted to keep HWW seeds for next season's plantings. As acreage expands, identity preservation (IP) could extend to IP marketing by class, instead of just by variety, so long as the HWW quality characteristics are maintained.

Large-scale segregation would be required from production points, storage, transportation, all the way through end-users. Limited onfarm storage space might present more of a challenge for Kansas than for the Northern Plains, where there is typically more storage capacity. Also, as production expands, segregating HWW from other classes of wheat may initially call for hauling the wheat crop to more distant elevators, which increases marketing costs. However, as HWW acreage substitutes for red wheat, storage space may be less of an issue. Elevator space will increasingly become available to handle white wheat. Elevators will likely adapt by handling different classes of wheat, or by specializing in HWW. Currently, some seed companies or farmer cooperatives contract with selected elevators to handle just HWW.

While IP is a deviation from the current norm, there are indications that other field crops are also likely to require segregation in the near future. New varieties (e.g., high-oil corn and high-oleic soybeans) with special traits aimed at enhancing various uses are already hitting the market.

An expansion of HWW production and subsequent potential for export has implications for grain grades and standards. Current U.S. wheat standards allow a 2-percent limit on contrasting classes of wheat and a 5-percent limit on total wheat of other classes for U.S. No. 2 wheat (the base grade of exported wheat). For price-sensitive buyers, such as those in the Middle East and Indian Subcontinent (where HWW could be used for making some flat breads such as pita because of its higher extraction rate and lighter color), the standards might be accepted without requiring a tighter limit in contract specification. (Semi-hard wheat is preferred by flour millers in these regions for making certain flat breads.)

However, tighter limits than U.S. wheat standards allow may be specified in the contract to reflect needs of quality-sensitive buyers. Those buyers who are especially sensitive to purity could contract directly with U.S. producers under an identity preservation program.

How to measure the wheat color would remain an issue to be addressed in determining the level of contrasting classes of wheat. The technology to distinguish white from red wheat is available. The single-kernel hardness tester, although extremely accurate, reportedly costs as much as $90,000 per unit, which may not be affordable to many elevators. Visual inspection is the traditional, less expensive option, but it may not be very accurate.

HWW: Niche or Mainstream?

The prospects of HWW acreage expansion will depend on how much end-users value this class of wheat. Over the next 3 to 4 years, HWW sales will be mainly to domestic markets. Exports are expected to remain minimal until sales are sufficient to provide a consistent supply. Small shipments using containers would likely be uncompetitive with Australian wheat, although shipments can be separated in a wheat cargo to reduce transport costs. Exports could go to Mexico for making tortillas and pan bread, to Asia for making oriental noodles, and to the Middle East and Indian Subcontinent for flat bread.

The rate of expansion in HWW acreage will initially be limited by the availability of certified seed. Approximately 1,000 bushels of combined foundation seeds for the two new KSU varieties will be planted in the fall of 1998. In subsequent years, the supply of certified seed will be limited by sales of HWW to domestic flour millers (instead of retained for seed) to demonstrate to farmers that there is a market outlet. Based on KSU's current distribution plan, nearly 2 million bushels of certified HWW seed is targeted for harvest in Kansas in 2000. In addition, according to KSU, marketing plans submitted by bidders to receive the foundation seeds indicated that one-half to three-quarters of this certified seed may be sold to farmers for seedings in fall 2000 and the remainder sold to flour millers and for market development trials. HWW area would then equal 8-12 percent of Kansas wheat acreage harvested in 2001.

Assuming traditional adoption rates for popular HRW varieties would apply to the new HWW varieties because of yield advantages, HWW acreage would expand further to nearly 15 percent of Kansas wheat acreage harvested in 2002. However, this comparison is not completely valid because previous varieties involved no changes in marketing or storage and had established market outlets. Also, concern about sprout damage will dampen optimism about a fast adoption of HWW. Thus, considering all the factors together, HWW acreage will not likely expand beyond 10-15 percent of Kansas wheat area in 2002, unless it is proven to producers that HWW offers higher revenues.

Without significant price premiums, the primary adoption driver would have to be the yield advantages. If trial yield gains are achieved by farmers, it would be similar to a popular HRW variety—Jagger—which was introduced in 1994. But it was not until 1998 that Jagger reached 20 percent of seeded acreage in Kansas. The amount of foundation seed for the two HWW varieties (1,000 bushels) is smaller than for Jagger when it was released (3,000 bushels). These comparisons suggest that the area planted to the two new varieties in Kansas will be less than 15 percent by the year 2002, especially if the yield improvements for these varieties are not as great as breeders expect.

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Special Article

U.S. Farmers Are Rapidly Adopting Biotech Crops

In just the last few years, adoption of genetically modified crop varieties has increased dramatically among several mainstays of U.S. agriculture—corn, soybeans, and cotton. Farmers have voted resoundingly in favor of the new crops as acreage soared to about 50 million in the 3 short years since commercial introduction. Further gains in acreage are expected in the years ahead. Research is also underway on genetically modified wheat, but commercial introduction is several steps away.

The new crop varieties currently being grown feature resistance to pests and the ability to tolerate herbicides. Farmers' rapidfire adoption of these varieties has been propelled by potential cost savings, including reductions in input use, although adoption has been so rapid and the technology is so new that only limited assessment of the economic impact has been made. Likewise, environmental pros and cons are being raised by proponents and critics.

Input traits such as pest resistance and herbicide tolerance represent the "first wave" of the new agricultural biotechnology, offering advantages to farmers in the production phase without changing the final product. The second wave of genetic modification will focus on output traits such as improved nutritional features and processing characteristics. More of these crops will be available commercially in the next few years.

The first generation of genetically modified (GM) crops has the potential to increase farmers' net returns through savings in production costs, reductions in chemical use, increased flexibility in crops planted, and in some cases, yield advantages. As farmers perceive benefits of the technology to outweigh the costs, growers' adoption of insect-resistant and herbicide-tolerant crops is spreading at a rapid pace.

Development of genetically modified organisms (GMO's) is an advance over conventional breeding techniques, which crossed similar plants or animals to create new varieties. Modern biotechnology, which includes genetic modification, applies cellular and molecular biology to expand the range of traits found in plants, animals, and microorganisms. Bt corn, for example, is enhanced with a gene from a naturally occurring soil bacterium


USDA/Agricultural Research Service

(*Bacillus thuringiensis*) to produce proteins that kill specific groups of insects.

Much of the research on genetically modified organisms began in the 1980's. It took a number of years before the altered crop varieties were ready for the market. In contrast, commercialization has been rapid, partly because the testing and approval process in the U.S. is relatively rapid, especially compared with Europe. In the U.S., the genetically modified crops on the market have been approved by USDA's Animal and Plant Health Inspection Service (APHIS), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA).

Genetically modified crops reflect very substantial investments, largely by private sector firms. These new varieties are proprietary, and farmers pay a premium for the seed. The technology is generally available through many seed companies. For some products, the premium paid by farmers covers a technology fee that goes to the company that developed the technology. These firms have begun devising arrangements that respect intellectual property rights, which are critical in providing incentives to invest and develop products. Many major companies that develop and patent the technology are merging, acquiring, or forming alliances with seed companies.

Currently available genetically modified crops should have little or no direct impact on prices received by farmers, assuming the varieties are accepted by consumers and by other countries. This is because the products are basically indistinguishable from con-

USDA does not make official estimates of acreage or production of genetically modified varieties—the data are included in the total estimates for the various crops. The numbers cited here were developed from industry sources, and are not official USDA data. Information on the cost and effectiveness of the various genetically modified crop varieties is drawn largely from private-sector sources and from universities. Use of brand names in the article is for identification of products, and does not constitute an endorsement of any product.

ventional crops. Output traits, on the other hand, will enhance the value of the crops for end-users, with more pronounced effects on pricing and marketing.

The adoption of genetically modified crops also has implications for trade because other countries, and notably the European Union (EU), have lagged the U.S. in approval of GMO's and in the development of regulations. Most trading partners have placed no restrictions on GMO imports from the U.S., but roadblocks have been encountered in the EU because of the slowness of the approval process as well as consumer concerns.

For a relatively small group of U.S. consumers and in some foreign markets, a niche market for non-GMO products may develop, similar to the present market for organic foods, that will involve identity-preserved production and marketing.

Major New Pest-Resistant & Herbicide-Tolerant Crops

Herbicide-Tolerant Oilseeds. Insertion of a single gene, derived from a common soil microorganism, makes soybeans immune to glyphosate, the active ingredient of Monsanto's Roundup herbicide. In 1996, the first year of commercial production, U.S. farmers harvested about 1 million acres of genetically modified, glyphosate-tolerant soybeans. By 1997, as seed became available in most producing regions, about 9 million acres were grown. U.S. farmers are expected to harvest more than 20 million acres this year, about 30 percent of total soybean acreage, and by the year 2000, more than half could be planted to varieties with this gene. Another soybean variety that is near U.S. commercialization is resistant to an alternative herbicide, glufosinate ammonium (Liberty), which differs from glyphosate in some features.

This technology is also being enthusiastically adopted by other world producers, including Argentina and Canada. In Brazil, the world's second-largest soybean producer, the government is likely to grant permission to raise herbicide-tolerant soybeans soon, and the outlook for adoption by farmers is very favorable (Monsanto predicts 20-30 percent use within 2 to 3 years after commercialization in Brazil). Imports of genetically modified soybeans for crushing are allowed into Brazil on condition that the resulting meal and oil be re-exported.

Why have farmers so enthusiastically adopted herbicide-tolerant soybean varieties? The higher cost of the seed is reportedly offset by a reduction in input costs. When planting Roundup Ready (glyphosate-tolerant) soybeans, for example, most farmers can limit herbicide treatment to a single application of Roundup shortly after the crop emerges from the soil, while the conventional herbicide program can involve multiple applications of several types of weed killers. Using glyphosate-tolerant soybeans, farmers can cut chemical costs by 10-40 percent, depending on the region and on the farmer's management practices.

Other oilseeds such as sunflowers, canola, and flax are also being genetically altered for herbicide tolerance. With no broad-spectrum weed control previously used for canola, yields of this crop have risen when the new varieties were planted. Canada preceded the U.S. in adopting herbicide-tolerant canola, planting 4 million acres by 1997. In 1998, nearly half of Canada's canola area (about 6.5 million acres) is expected to be seeded to herbicide-tolerant varieties. Glufosinate-tolerant canola was approved for U.S. producers in early 1998.

Bt and Herbicide-Tolerant Corn. Bt corn is designed to resist damage from the European corn borer (ECB), a major insect pest in the Corn Belt. Because the borer tunnels inside the stalk, the impact is not always readily apparent until damage has occurred. Bt corn, while resistant to specific groups of insects such as the corn borer, has not been shown to have a direct effect on beneficial insects.

Bt corn was first approved for sale in 1996, and use expanded greatly in 1997. Acreage has increased sharply in 1998, with the Bt trait incorporated into an increasing number of hybrids. Industry sources indicate Bt corn could be planted on 15-18 million acres in 1998 (about 20 percent of U.S. corn acreage), up from less than 5 million acres in 1997.

Because of the difficulty in predicting infestation and in properly timing treatment, the effectiveness of spraying had been mixed. Moreover, not all farmers who grow Bt corn treated their fields previously to control the corn borer. Given the indications of favorable yield, many farmers who had not previously sprayed for corn borer are apparently planting Bt corn to protect the crop against heavy infestations, and the higher yields can offset the added seed costs.

Results have generally been very positive in terms of protection from borer damage, compared with non-Bt corn in adjacent areas. However, yield performance was dependent on the particular hybrid. Where infestation was very heavy, yields of Bt corn varieties in some areas were dramatically higher than non-Bt corn.

The next major pest control feature would target the rootworm. This technology will be introduced in the next 2 or 3 years, and market prospects look promising. The industry is also working on disease resistance. Moreover, the industry expects further improvement in yield results as Bt becomes available with more elite germplasm.

Outside the U.S., some major corn producers, including Brazil and Argentina, are expected to grow Bt corn in the near future. European growers are also expressing strong interest in Bt corn, but political barriers in the EU could cloud the outlook.

Herbicide-tolerant corn is now on the market, including varieties that tolerate popular herbicides based on glyphosate (Roundup Ready corn), on glufosinate ammonium (Liberty Link corn), and on imidazolinone (IMI corn). Some herbicide-tolerant corn has also been developed through conventional breeding. For 1998, seed is available for more than 7 million acres of IMI corn, over 6 million acres of Liberty Link corn, and 900,000 acres of Roundup Ready corn.

Farmers' response to herbicide-tolerant corn is more complicated than for insect-resistant varieties such as Bt corn. Weed problems tend to be more varied, both by geography and by year. Usefulness and performance of herbicide-tolerant corn will vary by region and management practice. In areas where conventional tillage is more common, weed control may be less dependent on herbicide use, making adoption of herbicide-tolerant corn less likely.

Bt and Herbicide-Tolerant Cotton. Adoption of genetically modified cotton is expanding rapidly, although the experiences of farmers vary and have not been without problems. Genetically modified cotton is available with insect-resistant and herbicide-tolerant traits, and some varieties combine the two traits. Adoption should continue to grow as farmers learn how to manage these varieties and as seed developers offer new varieties.

In 1996, a genetically engineered cotton, Bollgard, became available commercially. This Bt cotton was developed to control the tobacco budworm and bollworm and reduce the amount of insecticides needed.

Producer response to Bt cotton was mixed, with positive outweighing negative, according to a paper presented at the Beltwide Cotton Production Conference in January 1997. In a 1996 Monsanto survey of about four-fifths of the producers using Bollgard, about 80 percent of the surveyed producers were satisfied. Monsanto reported that U.S. growers using Bt varieties realized a modest yield increase over non-Bt cotton and that there was a decline in the use of insecticides. While overall insecticide use is expected to decline with Bt varieties, many factors affect the performance of any genetically modified crops: seed varieties, insect levels, weather, and other environmental conditions. For example, in 1996, some Texas producers using Bt cotton where insect infestation was unusually high claimed losses from cotton bollworm damage on 18,000 acres.

Producers are beginning to understand that use of Bt cotton does not eliminate all necessary pest management practices and that continued monitoring of insect activity is necessary. Given heavy insect infestations, some insecticide spraying may still be needed to achieve adequate control.

Roundup Ready cotton was introduced commercially in 1997, as well as limited quantities of varieties that combined genes containing both Roundup Ready and Bollgard Bt. Overall, results from Roundup Ready cotton appear favorable. However, some producers in the Mississippi Delta and in Texas reported some losses from bollworm damage with herbicide-tolerant cotton, which was attributed to possible interactions of many factors such as weather, management practices, and the particular crop variety used.

A subsequent article will focus on genetically modified crops that feature output traits such as nutritional attributes.

Calgene markets a genetically engineered product—BXN cottonseed—resistant to the herbicide Bromoxynil. Producers have reported favorable results. Calgene plans to introduce cotton varieties containing both the BXN and Bt gene in 1998.

Producers planted genetically modified cotton (mainly Bollgard) on about 13 percent of U.S. cotton acreage in 1996, or about 1.9 million acres. In 1997, about 25 percent of U.S. cotton acreage, approximately 3.4 million acres, was planted to genetically modified cotton. Industry expectations are for continued growth in GM cotton in 1998.

Future plans are to develop additional tolerances of insects, diseases, and nematodes, and to incorporate genes designed to improve yield, harvestability, and drought and salt tolerance of cotton. In addition, as for other crops, the next wave will add output traits—e.g., fiber qualities including natural colors that eliminate the need for chemical dyes.

Adoption of GM varieties by competitor nations is underway. Monsanto introduced genetically modified cotton to Australia in 1996. Bt cotton has also been sold in Mexico and China, and efforts are underway for sales in Argentina, South Africa, and Brazil.

An Early Assessment Of the New Technology

In addition to cost savings, an incentive to adopt any new technology is convenience. Pest-resistant crops can reduce management tasks by, for example, reducing pest scouting needs and eliminating insecticide use. Incentives for using herbicide-tolerant crops are also strong, as growers can simplify their herbicide use and often reduce the number of applications of the targeted chemicals. On the other hand, as new herbicide-tolerant crops proliferate, farmers will need to keep track of which herbicides can or cannot be applied to a particular crop.

Most of the new technology introduced so far is not aimed explicitly at increasing yields. However, some of the new corn products will effectively boost yields by cutting losses to pests or weeds, protecting the yield potential of the particular hybrid. Benefits will vary from year to year and over different locations, depending on environmental factors such as the level of pest infestation that may have otherwise lowered yields.

Because there is no solid estimate on yield loss at the national level due to pest damage, it is difficult to assess the impact on aggregate yields from adoption of Bt corn and cotton. But if adopted widely enough, and if yield advantages are sustained, it could bump the average U.S. yields above long-term trends.

For soybeans, it is not clear whether herbicide-tolerant crops currently have a yield advantage over conventional varieties. While less weedy fields may enhance yields and reduce foreign material, other soybean varieties may be better tailored in certain locations to withstand pests, disease, or adverse weather conditions. As more varieties with these traits include the gene for herbicide resistance, U.S. yields may show improvement. In general, elite germplasm will still be the underlying driving force in crop productivity gains, regardless of the new technology applied.

To the extent that the new genetically modified crops, particularly the insect-resistant varieties, reduce the use of agricultural chemicals, they will appeal to farmers attempting to minimize the environmental impacts of their operations. The environmental benefits of herbicide-tolerant crops derive from the reduction in the number of chemical applications, reduction in energy use due to fewer passes across the fields, and reduction in the need for tillage.

Moreover, substitution of both glyphosate and glufosinate for other chemicals has potential environmental benefits. These two herbicides have less residual soil activity than some other herbicides. This means that runoff of chemicals into groundwater could be minimized. Herbicide-tolerant crops also accommodate no-till operations, which reduce erosion of topsoils.

Some critics are concerned that insects or weeds may develop resistance to the technology intended to suppress them. In the case of insect resistance, organic producers and gardeners, for example, are concerned about resistance to Bt, because it is an effective and environmentally friendly pesticide that they have used as a spray.

Companies selling Bt seed have a strong economic incentive to prevent the development of insect resistance, in order to preserve the value of Bt seed, and they acknowledge that development of resistant insect populations is a real threat to the long-term effectiveness of Bt crops. Producers using Bt seed sign agreements with the seed companies to follow certain production practices as part of an insect resistance management program.

For both cotton and corn, two-part pest management plans were developed by the Environmental Protection Agency (EPA). First, the developing company must ensure that the Bt strains carry enough toxin to kill most feeding insects so that they cannot mate. Second, the developing company must ensure that farmers plant nearby areas to a non-Bt variety to provide a refuge for survival of nonresistant insects. Such management plans will likely involve costs to growers.

Chemical and seed companies are also prepared to tap different strains and versions of Bt and to offer new generations of product, similar to the practice with some antibiotics in addressing resistance. The effectiveness of these measures will need to be evaluated over time.

Continued use of a particular herbicide raises fear of weed resistance. Another potential problem is weed shift, with species most susceptible to the herbicide declining over time, while less susceptible species build up. Further monitoring and research are needed over time to adequately address concerns about insect and weed resistance.

Trade & Genetically Modified Organisms

In late 1997 and in 1998, friction occurred over EU acceptance of U.S. corn exports because particular GM varieties from the 1997 crop had not yet been fully approved under the EU's approval process. This has effectively blocked imports of U.S. corn by Spain and Portugal, which typically purchase U.S. corn every year. Although the particular varieties were approved by an EU scientific advisory panel and an EU regulatory committee, other hurdles remain, including approval by France. As one of two member countries that sponsored the corn varieties, France must grant its consent before the corn varieties can be marketed in the EU. The United Kingdom, the second sponsoring country, previously granted its consent in June 1998.

Rapid introduction of new genetically modified varieties and a slow approval process in the EU suggests delays could occur again under the prevailing regulatory system. Moreover, the environmental impact as well as food safety is a concern in the EU. In addition, the EU passed a labeling requirement, which could provide disincentives to imports of foods processed from genetically modified crops, and could increase costs.

Looking Ahead

Early indications are that many of the new crop technologies are beneficial to U.S. farmers, although adoption is not without risk. Because the technology is so new, assessments of its effectiveness, cost and labor savings, yield advantages, and ecological impacts are limited. Sustained performance (such as weed control) over time, including performance of the new technologies under stress conditions like drought, is an unknown that could influence future adoption rates. Growing concentration among seed and chemical companies will present additional unknowns for farmers.

Meanwhile, many new features on the input side are expected to be introduced soon, such as resistance to more insect pests. In the future, "stacking" of multiple traits in a single variety will become more common, such as combining herbicide tolerance, disease resistance, and end-use or output properties. The breeding process becomes more complicated as the number of genes involved increases, so it is unlikely that one variety will ever be best for all situations. But stacking will likely broaden the appeal of genetically modified crops.

Given the considerable investment in research by the private sector, and the rapid adoption by farmers, the brisk pace of innovation in developing genetically modified crops is likely to continue. Economic and agronomic impacts will become more evident as the technology evolves.

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Statistical Indicators

Summary Data

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

				1997		1998				1999 F
	1997	1998 F	1999 F	III	IV	I	II	III	IV	I
Prices received by farmers (1990-92=100)	103	--	--	107	106	102	103	--	--	--
Livestock & products	98	--	--	99	97	94	96	--	--	--
Crops	112	--	--	115	113	110	111	--	--	--
Prices paid by farmers (1990-92=100)								--	--	--
Production items	117	--	--	117	116	115	114	--	--	--
Commodities and services, interest,	117	--	--	117	117	117	117	--	--	--
taxes, and wages								--	--	--
Cash receipts ($ bil.)[1]	208	201	--	50	64	49	44	49	59	--
Livestock	97	94	--	25	25	23	23	24	24	--
Crops	112	107	--	25	39	26	21	25	35	--
Market basket (1982-84=100)										
Retail cost	160	--	--	160	161	162	--	--	--	--
Farm value	106	--	--	106	105	102	--	--	--	--
Spread	189	--	--	189	191	194	--	--	--	--
Farm value/retail cost (%)	23	--	--	23	23	23	--	--	--	--
Retail prices (1982-84=100)										
All food	157	160	163	158	159	160	160	160	160	162
At home	158	160	162	158	159	160	160	160	160	162
Away from home	157	161	165	157	159	160	161	162	163	164
Agricultural exports ($ bil.)[2]	57.4	56.0	--	14.9	13.2	12.9	16.3	14.4	12.9	12.5
Agricultural imports ($ bil.)[2]	35.8	38.0	--	9.1	9.3	8.7	9.2	9.4	9.5	9.9
Commercial production										
Red meat (mil. lb.)	43,209	44,989	43,840	10,939	11,167	11,038	11,036	11,667	11,248	10,796
Poultry (mil. lb.)	33,258	33,933	35,345	8,398	8,383	8,258	8,520	8,530	8,625	8,510
Eggs (mil. doz.)	6,460	6,632	6,765	1,606	1,667	1,637	1,640	1,665	1,690	1,665
Milk (bil. lb.)	156.6	158.0	160.1	38.8	38.2	39.2	41.1	39.0	38.7	39.8
Consumption, per capita										
Red meat and poultry (lb.)	208.6	213.9	213.5	52.5	53.9	51.7	53.0	54.5	54.8	52.2
Corn beginning stocks (mil. bu.)[3]	425.9	883.2	1,433.7	4,494.1	2,496.6	883.2	7,246.8	4,939.9	3,039.1	--
Corn use (mil. bu.)[3]	8,849.5	8,825.0	--	2,001.3	1,617.1	3,004.2	2,307.8	1,904.6	--	--
Prices[4]										
Choice steers--Neb. Direct ($/cwt)	66.32	63-65	70-76	65.65	66.61	61.73	64.16	62-64	66-70	70-76
Barrows and gilts--IA, So. MN ($/cwt)	51.36	36-37	34-37	54.45	43.53	34.74	39.50	37-39	33-35	33-35
Broilers--12-city (cents/lb.)	58.80	59-61	55-59	62.00	54.00	56.40	61.00	63-65	56-60	54-58
Eggs--NY gr. A large (cents/doz.)	81.20	73-75	70-76	79.70	88.20	79.00	66.50	69-71	77-83	72-78
Milk--all at plant $/cwt)	13.34	14.15-14.45	13.10-14.10	12.63	14.53	14.60	13.57	14.35-14.75	14.15-14.85	13.50-14.50
Wheat--KC HRW ordinary ($/bu.)	4.16	--	--	3.76	3.82	3.62	3.32	--	--	--
Corn--Chicago ($/bu.)	2.78	--	--	2.64	2.74	2.72	2.49	--	--	--
Soybeans--Chicago ($/bu.)	7.60	--	--	7.74	8.54	7.19	6.95	6.68	--	--
Cotton--avg. spot 41-34 (cents/lb)	69.89	--	--	70.73	69.81	71.40	67.64	64.48	--	--
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Farm real estate values[5]										
Nominal ($ per acre)	668	683	703	713	736	782	832	890	945	1,000
Real (1982 $)	539	528	521	507	511	529	550	574	598	620

F = Forecast. -- = Not available. 1. Quarterly data seasonally adjusted at annual rates. 2. Annual data based on Oct.-Sept. fiscal years ending with ye indicated. 3. 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. 4. Simple averages, Jan.-Dec. 5. 1990-98 values as of January 1. 1989 values as of February 1.

U.S. & Foreign Economic Data

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

				1996		1997				1998
	1995	1996	1997	III	IV	I	II	III	IV	I
Billions of current dollars (quarterly data seasonally adjusted at annual rates)										
Gross Domestic Product	7,265.4	7,636.0	8,079.9	7,676.0	7,792.9	7,933.6	8,034.3	8,124.3	8,227.4	8,359.3
Gross National Product	7,270.6	7,637.7	8,060.1	7,669.1	7,796.1	7,919.2	8,013.6	8,103.5	8,204.2	8,340.7
Personal consumption expenditures	4,957.7	5,207.6	5,485.8	5,227.4	5,308.1	5,405.7	5,432.1	5,527.4	5,577.8	5,667.3
Durable goods	608.5	634.5	659.3	634.5	638.2	658.4	644.5	667.3	666.8	687.4
Nondurable goods	1,475.8	1,534.7	1,592.0	1,538.3	1,560.1	1,587.4	1,578.9	1,600.8	1,600.9	1,621.5
Food	735.1	756.1	776.4	757.4	766.6	775.5	771.4	779.3	779.4	787.4
Clothing and shoes	254.7	264.3	277.3	265.7	266.2	275.2	274.8	280.5	278.7	289.8
Services	2,873.4	3,038.4	3,234.5	3,054.6	3,109.8	3,159.9	3,208.7	3,259.3	3,310.0	3,358.4
Gross private domestic investment	1,038.2	1,116.5	1,242.5	1,149.2	1,151.1	1,193.6	1,242.0	1,250.2	1,284.1	1,359.5
Fixed investment	1,008.1	1,090.7	1,174.1	1,112.0	1,119.2	1,127.5	1,160.8	1,201.3	1,206.8	1,250.7
Change in business inventories	30.1	25.9	68.4	37.1	31.9	66.1	81.1	48.9	77.2	108.8
Net exports of goods and services	-86.0	-94.8	-101.1	-114	-88.6	-98.8	-88.7	-111.3	-105.3	-130.2
Government consumption expenditures and gross investment	1,355.5	1,406.7	1,452.7	1,413.5	1,422.3	1,433.1	1,449.0	1,457.9	1,470.9	1,462.6
Billions of 1992 dollars (quarterly data seasonally adjusted at annual rates)[1]										
Gross Domestic Product	6,742.1	6,928.4	7,188.8	6,943.8	7,017.4	7,101.6	7,159.6	7,214.0	7,280.0	7,375.7
Gross National Product	6,748.7	6,932.0	7,174.4	6,940.2	7,023.1	7,091.8	7,144.4	7,198.8	7,262.6	7,362.6
Personal consumption expenditures	4,595.3	4,714.1	4,867.5	4,718.2	4,756.4	4,818.1	4,829.4	4,896.2	4,926.1	4,998.7
Durable goods	583.6	611.1	645.5	611.9	617.1	637.8	629.0	656.1	659.3	682.7
Nondurable goods	1,412.6	1,432.3	1,458.5	1,433.9	1,441.2	1,457.8	1,450.0	1,465.5	1,460.9	1,484.4
Food	690.5	689.7	689.7	687.3	689.0	694.6	688.2	689.5	686.6	691.3
Clothing and shoes	257.5	267.7	278.0	270.8	270.0	277.1	273.8	281.3	279.6	291.7
Services	2,599.6	2,671.0	2,764.1	2,672.8	2,698.2	2,723.9	2,749.8	2,776.1	2,806.4	2,834.1
Gross private domestic investment	991.5	1,069.1	1,197.0	1,100.3	1,104.8	1,149.2	1,197.1	1,204.6	1,237.2	1,318.3
Fixed investment	962.1	1,041.7	1,123.6	1,060.9	1,068.7	1,079.0	1,111.4	1,149.3	1,154.6	1,202.2
Change in business inventories	27.3	25.0	65.7	37.9	32.9	63.7	77.6	47.5	74.0	105.7
Net exports of goods and services	-98.8	-114.4	-146.5	-138.9	-105.6	-126.3	-136.6	-164.1	-159.1	-208.4
Government consumption expenditures and gross investment	1,251.9	1,257.9	1,269.6	1,261.5	1,261.8	1,260.5	1,270.1	1,273.4	1,274.4	1,264.1
GDP implicit price deflator (% change)	2.5	2.3	2.0	2.6	1.9	2.4	1.8	1.4	1.4	1.1
Disposable personal income ($ bil.)	5,355.7	5,608.3	5,885.2	5,644.6	5,695.8	5,790.5	5,849.9	5,908.9	5,991.4	6,095.6
Disposable per. income (1992 $ bil.)	4,964.2	5,076.9	5,221.9	5,094.8	5,103.8	5,161.1	5,200.9	5,234.1	5,291.4	5,350.0
Per capita disposable pers. income ($)	20,349	21,117	21,969	21,229	21,373	21,689	21,865	22,034	22,285	22,513
Per capita disp. pers. income (1992 $)	18,861	19,116	19,493	19,161	19,152	19,331	19,439	19,518	19,681	19,857
U.S. resident population plus Armed Forces overseas (mil.)[2]	263.0	265.5	267.9	265.7	266.4	266.9	267.5	268.1	268.9	269.3
Civilian population (mil.)[2]	261	263.9	266.4	264.1	264.9	265.4	266.0	266.6	267.3	267.8

	Annual			1997		1998				
	1995	1996	1997	May	Dec	Jan	Feb	Mar	Apr	May
Monthly data seasonally adjusted										
Total industrial production (1992=100)	116.0	120.2	127.0	125.7	130.9	131.1	130.6	130.6	131.2	131.5
Leading economic indicators (1992=100)	100.8	102.0	103.8	103.6	104.5	104.5	105.0	105.2	105.2	105.2
Civilian employment (mil. persons)[3]	124.9	126.7	129.6	129.5	130.8	131.1	131.2	131.0	131.4	131.5
Civilian unemployment rate (%)[3]	5.6	5.4	4.9	4.8	4.7	4.7	4.6	4.7	4.3	4.3
Personal income ($ bil. annual rate)	6,150.8	6,495.2	6,873.9	6,822.8	7,050.4	7,089.6	7,130.5	7,156.2	7,184.8	7,223.1
Money stock-M2 (daily avg.) ($ bil.)[4]	3,651.2	3,826.1	4,045.8	3,892.5	4,045.8	4,071.3	4,103.9	4,132.3	4,165.0	4,174.6
Three-month Treasury bill rate (%)	5.51	5.02	5.07	5.13	5.16	5.09	5.11	5.03	5.00	5.03
AAA corporate bond yield (Moody's) (%)	7.59	7.37	7.27	7.58	6.76	6.61	6.67	6.72	6.69	6.69
Total housing starts (1,000)[5]	1,354.1	1,476.8	1,474.0	1,404	1,540	1,545	1,616	1,585	1,541	1,530
Business inventory/sales ratio[6]	1.43	1.40	1.37	1.38	1.38	1.38	1.38	1.37	1.38	--
Sales of all retail stores ($ bil.)[7]	2,346.3	2,465.1	2,546.3	210.5	214.9	217.1	220.9	221.1	222.7	225.5
Nondurable goods stores ($ bil.)	1,405.6	1,457.8	1,505.4	124.6	125.9	126.9	128.1	128.5	129.3	130.4
Food stores ($ bil.)	408.4	424.2	432.1	35.6	36.2	36.0	36.1	36.4	36.6	36.8
Apparel and accessory stores ($ bil.)	109.5	113.0	116.8	9.7	9.8	10.0	10.3	10.4	10.5	10.4
Eating and drinking places ($ bil.)	239.9	238.4	244.1	19.6	20.5	20.6	20.3	20.3	20.3	20.5

-- = Not available. 1. In April 1996, 1992 dollars replaced 1987 dollars. 2. Population estimates based on 1990 census. 3. Data beginning January 1994 not directly comparable with data for earlier periods because of a major redesign of 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

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	Real GDP, annual percent change									
World	2.5	1.8	1.8	1.5	3.1	2.6	3.2	3.3	2.4	2.8
less U.S.	3.0	2.8	1.5	1.2	2.9	2.9	3.4	3.1	1.9	3.1
Developed Economies	2.7	1.7	1.5	0.8	2.7	2.1	2.6	2.7	2.2	2.3
less U.S.	3.5	3.0	0.9	0.1	2.4	2.1	2.5	2.1	1.5	2.5
United States	1.2	-0.9	2.7	2.3	3.5	2.0	2.8	3.8	3.5	1.9
Canada	0.3	-1.9	0.9	2.5	3.9	2.2	1.2	3.7	3.3	3.2
Japan	5.1	3.8	1.0	0.3	0.7	1.4	4.1	0.8	-1.7	1.5
Australia	1.5	-0.7	2.4	3.8	5.6	3.5	3.7	3.3	3.1	3.0
European Union	3.1	3.6	0.9	-0.6	3.0	2.5	1.8	2.6	2.9	2.8
Transition Economies	-4.3	-6.9	-11.3	-7.1	-9.6	-2.0	-1.4	0.7	1.1	1.9
Eastern Europe	-6.3	-10.6	-3.8	0.5	3.4	5.3	2.9	1.9	3.7	4.6
Poland	-10.8	-6.3	2.0	3.7	4.6	6.6	6.1	6.9	6.0	6.0
Former Soviet Union	-3.7	-5.7	-13.6	-9.7	-14.7	-5.4	-3.7	0.0	-0.3	0.4
Russia	-3.6	-5.0	-14.5	-8.7	-12.6	-4.0	-2.8	0.4	-0.5	0.0
Developing Economies	3.7	4.8	6.2	6.1	6.6	5.5	6.3	5.8	3	4.6
Asia	5.8	6.6	8.9	8.5	9.2	8.4	8	6.8	2.7	5.1
East Asia	5.1	8.8	10.9	10.7	10.8	9.3	8.4	7.8	4.5	6.1
China	3.8	9.3	14.2	13.5	12.6	10.5	9.6	8.8	7.1	7.9
Taiwan	5.4	7.5	6.8	6.3	6.5	6.0	5.7	6.8	5.1	5.0
Korea	9.5	9.2	5.1	5.8	8.8	8.7	7.1	5.5	-4.6	0.5
Southeast Asia	8.1	6.8	6.9	7.4	8.1	8.3	7.3	4.8	-5.1	1.0
Indonesia	8.9	8.9	7.2	7.2	7.5	8.1	8.0	4.7	-15.0	-2.0
Malaysia	9.7	8.8	7.8	8.4	9.4	9.4	8.6	7.8	-2.5	0.3
Philippines	2.7	-0.2	0.3	2.1	4.4	4.8	5.7	5.3	-1.5	1.5
Thailand	11.7	8.0	8.1	8.3	8.8	8.7	5.5	-0.4	-5.8	-0.2
South Asia	5.6	1.2	5.5	3.8	5.9	5.9	7.1	5.3	4.9	5.6
India	5.6	0.5	5.3	4.0	6.3	6.1	7.5	5.5	5.0	5.8
Pakistan	4.5	5.5	7.8	1.9	3.9	4.4	4.5	3.8	4.3	4.3
Latin America	0.0	3.7	2.9	3.9	5.2	0.1	3.4	5.1	3.0	3.9
Mexico	5.1	4.2	3.6	2.0	4.5	-6.3	5.2	7.0	4.6	4.4
Caribbean/Central	0.7	4.0	8.0	4.9	4.4	2.9	3.1	4.0	3.5	3.6
South America	-1.4	3.5	2.6	4.5	5.4	1.8	3.0	4.7	2.6	3.7
Argentina	0.2	8.9	8.6	6.0	7.4	-4.6	4.2	8.4	4.2	5.4
Brazil	-4.6	0.5	-1.2	4.5	5.8	3.0	2.8	3.0	1.1	2.7
Colombia	4.1	1.8	4.2	5.2	5.8	5.3	2.0	3.0	4.0	4.0
Venezuela	6.6	9.7	6.1	0.3	-2.8	2.2	-0.4	5.0	3.0	4.0
Middle East	5	2.9	5.5	3.5	0.3	3.3	4.5	4.2	3.3	3.5
Israel	6.8	7.7	5.6	5.6	6.9	7.0	4.5	2.1	2.8	3.5
Saudi Arabia	8.7	8.4	2.8	-0.6	0.5	-0.5	1.4	2.7	2.1	2.0
Turkey	9.3	0.9	6.0	8.0	-5.5	7.0	7.2	7.2	5.0	5.2
Africa	1.1	1.0	0.6	0.9	2.3	2.6	4.6	2.8	4.2	4.0
North Africa	1.2	1.3	0.9	-0.8	2.2	1.7	5.5	2.1	5.0	4.4
Egypt	2.4	2.1	0.3	0.5	2.0	2.4	4.2	4.9	4.5	4.4
Sub-Sahara	1.0	0.7	0.4	2.3	2.4	3.4	4.0	3.3	3.5	3.8
South Africa	-1.0	-1.0	-2.6	1.3	2.4	3.4	3.1	1.7	3.0	3.4
	Consumer prices, percent change									
Developed Economies	5.2	4.6	3.5	3.0	2.6	2.5	2.4	2.1	2.1	2.0
Transition Economies	38.6	95.8	656.6	609.3	268.4	124.1	41.4	27.8	13.8	8.7
Developing Economies	68.1	36.2	38.3	46.8	50.7	21.7	13.7	8.5	10.2	8.5
Asia	6.5	7.8	6.8	10.3	14.7	11.9	6.7	3.9	8.0	6.2
Latin America	438.3	129.1	151.4	208.8	210.2	35.9	22.3	13.1	9.1	7.4
Middle East	22.4	27.5	25.6	24.6	31.9	35.9	24.5	22.6	26.6	26.3
Africa	17.5	24.3	32.1	31.2	34.6	33.9	26.2	10.5	7.5	6.0

*The last three years are either estimates or forecasts. *Information contact: Alberto Jerardo (202) 694-5323*

Sources: Oxford Economic Forecasting; International Financial Statistics, IMF.

Farm Prices

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

	Annual			1997	1998					
	1995	1996	1997	Jun	Jan	Feb	Mar	Apr	May	Jun
	1990-92=100									
Prices received										
All farm products	102	112	107	107	103	101	102	104	103	101
All crops	112	126	115	119	110	110	111	115	113	106
Food grains	134	157	128	120	116	117	118	112	109	95
Feed grains and hay	112	146	117	119	113	113	113	109	108	102
Cotton	127	122	112	111	100	102	105	103	105	110
Tobacco	103	105	104	--	110	110	104	97	--	--
Oil-bearing crops	104	128	130	145	119	117	114	112	112	109
Fruit and nuts, all	100	118	109	127	77	89	94	102	110	122
Commercial vegetables	120	109	120	116	127	120	127	156	128	109
Potatoes and dry beans	107	114	93	85	99	103	107	106	112	105
Livestock and products	92	99	99	97	94	94	95	95	95	97
Meat animals	85	87	92	94	84	82	82	84	87	86
Dairy products	98	114	102	93	113	113	110	107	101	103
Poultry and eggs	107	120	114	111	105	104	108	109	107	115
Prices paid										
Commodities and services,										
interest, taxes, and wage rates	110	115	116	117	116	116	116	116	116	115
Production items	109	115	116	117	114	113	114	114	114	113
Feed	104	130	122	126	113	110	112	111	108	102
Livestock and poultry	82	75	93	95	92	93	91	94	91	88
Seeds	110	115	119	120	120	120	120	123	123	123
Fertilizer	120	124	121	122	114	114	114	114	115	116
Agricultural chemicals	115	119	121	120	124	123	122	122	121	121
Fuels	94	105	103	102	86	82	89	91	94	98
Supplies and repairs	112	115	117	118	118	118	118	119	119	119
Autos and trucks	107	108	109	119	109	109	119	119	118	117
Farm machinery	120	125	128	128	129	129	131	132	132	132
Building material	114	115	118	118	118	118	118	118	118	118
Farm services	118	118	118	117	116	116	116	116	116	116
Rent	116	119	119	121	124	124	124	124	124	124
Int. payable per acre on farm real estate debt	101	105	106	107	108	108	108	108	108	108
Taxes payable per acre on farm real estate	109	112	115	115	119	119	119	119	119	119
Wage rates (seasonally adjusted)	114	117	123	122	131	131	131	130	130	130
Production items, interest, taxes, and wage rates	109	114	116	117	115	115	115	115	115	114
Ratio, prices received to prices paid (%)*	93	98	92	91	89	87	88	90	89	88
Prices received (1910-14=100)	647	712	679	683	653	642	650	662	656	644
Prices paid, etc. (parity index) (1910-14=100)	1,437	1,504	1,527	1,540	1,523	1,517	1,525	1,528	1,522	1,512
Parity ratio (1910-14=100) (%)*	45	47	45	44	43	44	43	43	43	43

Values for 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. *Information contact: David Johnson (202) 694-5324.*
For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540.
Internet users can access the NASS Home Page at http://www.usda.gov/nass.

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

	Annual[1]			1997	1998					
	1994	1995	1996	Jun	Jan	Feb	Mar	Apr	May	Jun
Crops										
All wheat ($/bu.)	3.45	4.55	4.30	3.52	3.33	3.27	3.32	3.15	3.06	2.72
Rice, rough ($/cwt)	6.78	9.15	9.50	9.90	9.52	9.66	9.55	9.30	9.41	9.74
Corn ($/bu.)	2.26	3.24	2.70	2.56	2.56	2.55	2.54	2.41	2.34	2.20
Sorghum ($/cwt)	3.80	5.69	4.20	4.10	4.02	4.06	4.02	3.76	3.71	3.60
All hay, baled ($/ton)	86.70	82.20	93.00	108.00	98.10	97.20	97.50	101.00	103.00	91.80
Soybeans ($/bu.)	5.48	6.72	6.85	8.16	6.69	6.57	6.40	6.26	6.26	6.01
Cotton, upland (cents/lb.)	72.00	75.40	70.60	67.10	60.80	62.00	63.40	62.20	63.50	66.50
Potatoes ($/cwt)	5.58	6.77	5.11	4.62	5.55	5.86	6.25	6.17	6.52	6.06
Lettuce ($/cwt)[2]	13.30	23.50	14.80	14.90	19.00	10.90	13.40	27.90	14.70	11.30
Tomatoes fresh ($/cwt)[2]	27.40	25.80	28.50	32.60	31.10	48.00	33.20	36.50	34.70	27.00
Onions ($/cwt)	9.87	9.87	9.58	16.50	13.20	16.00	21.20	21.70	18.50	14.90
Beans, dry edible ($/cwt)	22.50	20.80	24.20	21.20	21.10	21.40	20.10	20.80	21.10	21.00
Apples for fresh use (cents/lb.)	18.60	24.00	20.90	13.70	22.30	21.60	21.30	19.20	18.20	16.50
Pears for fresh use ($/ton)	223.00	272.00	375.00	568.00	253.00	260.00	243.00	292.00	373.00	353.00
Oranges, all uses ($/box)[3]	6.37	6.11	6.93	5.11	2.58	3.53	4.75	5.82	5.68	6.41
Grapefruit, all uses ($/box)[3]	5.26	4.61	4.63	1.94	1.79	1.61	1.03	1.36	0.42	3.58
Livestock										
Cattle, all beef ($/cwt)	66.50	61.80	58.70	62.30	62.50	60.40	61.30	63.00	63.00	61.70
Calves ($/cwt)	87.10	73.10	58.40	85.40	86.60	88.70	89.80	90.80	88.90	85.00
Hogs, all ($/cwt)	39.50	40.50	51.90	57.80	36.00	35.70	34.80	35.60	42.20	42.50
Lambs ($/cwt)	64.80	78.20	88.20	86.50	78.40	73.40	70.00	66.10	63.30	--
All milk, sold to plants ($/cwt)	13.01	12.78	14.75	12.20	14.70	14.70	14.40	14.00	13.20	13.50
Milk, manuf. grade ($/cwt)	11.85	11.79	13.43	10.80	13.50	13.50	12.90	12.10	11.30	12.30
Broilers, live (cents/lb.)	35.00	34.40	38.10	37.40	33.10	34.40	35.20	36.50	36.90	40.30
Eggs, all (cents/doz.)[4]	67.25	62.40	75.00	59.30	74.00	64.70	69.90	63.50	54.80	60.00
Turkeys (cents/lb.)	40.70	41.00	43.30	41.60	35.50	34.00	34.60	35.70	35.40	35.90

-- = Not available. Values for last two months 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 eggs sold at retail. *Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540. Internet users can 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			1997	1998					
	1995	1996	1997	Jun	Jan	Feb	Mar	Apr	May	Jun
	1982-84=100									
Consumer Price Index, all items	152.4	156.9	160.5	160.3	161.6	161.9	162.2	162.5	162.8	163.0
CPI, all items less food	153.1	157.5	161.1	161.0	161.9	162.3	162.6	163.0	163.3	165.3
All food	148.4	153.3	157.3	156.6	159.9	159.4	159.7	159.8	160.3	160.1
Food away from home	149.0	152.7	157.0	156.6	159.2	159.6	159.9	160.2	160.6	160.7
Food at home	148.8	154.3	158.1	157.3	161.0	160.0	160.2	160.2	160.7	160.5
Meats[1]	135.5	140.2	144.4	144.5	143.2	142.4	142.2	140.8	141.0	141.5
Beef and veal	134.9	134.5	136.8	136.4	136.8	135.9	136.8	136.5	136.3	136.3
Pork	134.8	148.2	155.9	157.4	152.1	151.5	149.5	145.9	147.6	148.7
Poultry	143.5	152.4	156.6	156.7	155.1	155.3	155.1	154.3	155.6	155.5
Fish and seafood	171.6	173.1	177.1	176.6	180.7	180.9	180.3	181.0	180.9	180.5
Eggs	120.5	142.1	140.0	128.8	143.8	137.3	136.4	139.1	128.6	126.3
Dairy products[2]	132.8	142.1	145.5	144.1	148.3	147.7	148.4	148.5	148.1	148.1
Fats and oils[3]	137.3	140.5	141.7	141.6	140.5	141.5	142.2	140.7	141.2	143.3
Fresh fruits	219.0	234.4	236.3	228.5	240.2	240.3	235.9	241.6	249.0	247.3
Processed fruits	137.1	145.2	148.8	149.1	--	--	--	--	--	--
Fresh vegetables	193.1	189.2	194.6	189.1	233.8	210.5	220.2	219.7	229.7	214.7
Potatoes	174.7	180.6	174.2	172.4	180.2	179.3	181.6	179.9	187.7	193.1
Processed vegetables	138.3	143.9	147.2	147.6	--	--	--	--	--	--
Cereal and bakery products	167.5	174.0	177.6	178.2	179.0	179.7	179.6	180.2	180.5	181.6
Sugar and sweets	137.5	143.7	147.8	148.1	150.3	149.6	150.8	150.1	149.5	150.5
Nonalcoholic beverages	131.7	128.6	133.4	134.8	134.1	134.8	134.2	133.9	132.9	132.8
Apparel										
Apparel, commodities less footwear	129.3	128.5	129.4	129.1	--	--	--	--	--	--
Footwear	125.4	126.6	127.6	126.3	127.4	126.6	126.5	127.9	128.3	128.2
Tobacco and smoking products	225.7	232.8	243.7	241.3	253.8	261.2	254.1	263.5	270.0	266.9
Alcoholic beverages	153.9	158.5	162.8	162.7	164.6	165.0	165.1	165.2	165.2	165.5

-- = Not available. 1. Beef, veal, lamb, pork, and processed meat. 2. Includes butter. 3. Excludes butter. *Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the Bureau of Labor Statistics' CPI Information Hotline (202) 606-7828.*

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

	Annual			1997	1998					
	1995	1996	1997	Jun	Jan	Feb	Mar	Apr	May	Jun
	1982=100									
All commodities	124.8	127.7	127.6	127.2	125.4	125.0	124.5	124.7	124.9	128.4
Finished goods[1]	127.9	131.3	131.8	131.6	130.3	130.2	129.7	130.0	130.4	130.6
All foods[2]	126.7	132.5	132.8	131.8	130.9	131.9	131.4	131.9	131.9	131.8
Consumer foods	129.0	133.6	134.5	134.0	133.1	133.6	133.3	133.6	133.5	133.6
Fresh fruits and melons	85.7	100.8	99.4	92.6	89.2	94.2	84.6	88.6	90.6	89.6
Fresh and dry vegetables	144.4	135.0	123.1	108.8	143.1	146.4	156.9	167.8	132.8	120.9
Dried and dehydrated fruits	121.2	124.2	124.9	125.7	124.8	123.4	122.7	122.5	127.4	127.4
Canned fruits and juices	129.4	137.5	137.6	137.5	133.9	134.4	134.0	133.9	134.1	133.8
Frozen fruits, juices and ades	115.9	123.9	117.2	119.9	110.4	111.7	114.1	114.5	115.5	115.4
Fresh veg. except potatoes	139.8	120.9	121.3	112.2	133.1	136.6	148.2	162.9	123.2	106.5
Canned vegetables and juices	116.6	121.2	120.1	119.9	121.2	121.9	121.7	121.8	122.0	121.9
Frozen vegetables	124.2	125.4	125.8	125.7	125.2	126.0	124.9	124.6	126.1	125.3
Potatoes	142.6	133.9	106.1	96.1	116.5	113.6	120.9	125.5	136.3	120.4
Eggs for fresh use (1991=100)	86.3	105.1	97.1	79.4	98.3	86.0	98.6	83.6	71.2	86.9
Bakery products	164.3	169.8	173.9	173.7	175.3	175.3	175.2	175.6	175.8	175.7
Meats	102.9	109.0	111.6	113.2	102.4	102.3	99.6	100.9	105.3	105.9
Beef and veal	100.9	100.2	102.8	102.2	99.5	100.1	97.8	99.4	103.7	99.9
Pork	101.4	120.9	123.1	129.3	98.5	97.6	93.0	95.1	103.8	111.2
Processed poultry	114.3	119.8	117.4	117.3	113.6	115.7	116.7	117.0	115.7	119.6
Unprocessed and packaged fish	170.9	165.9	178.1	172.9	187.4	193.0	187.1	185.4	189.7	178.3
Dairy products	119.7	130.4	128.1	125.3	130.1	133.1	132.2	131.5	131.5	132.8
Processed fruits and vegetables	122.4	127.6	126.4	126.5	124.8	125.4	125.3	125.3	126.0	125.8
Shortening and cooking oil	142.5	138.5	137.8	137.2	140.0	140.4	140.2	142.5	143.0	141.8
Soft drinks	133.1	134.0	133.2	133.3	134.4	134.7	134.9	134.8	134.0	134.5
Finished consumer goods less foods	123.9	127.6	128.2	128.1	126.1	125.6	124.9	125.3	126.4	126.8
Alcoholic beverages	128.5	132.8	135.1	135.4	135.1	135.0	135.0	135.0	134.6	134.9
Apparel	124.2	125.1	125.7	125.6	126.6	126.5	125.9	126.2	126.2	126.3
Footwear	139.2	141.6	143.7	142.2	144.5	144.7	144.7	144.7	144.4	144.7
Tobacco products	231.3	237.4	248.9	248.5	257.5	261.9	262.0	270.9	278.4	278.7
Intermediate materials[3]	124.9	125.8	125.6	125.8	124.2	123.8	123.3	123.3	123.4	123.4
Materials for food manufacturing	119.5	125.3	123.2	122.7	119.9	121.6	121.1	121.8	123.7	122.9
Flour	122.8	136.8	118.7	120.2	109.5	110.7	114.1	112.9	112.1	109.0
Refined sugar[4]	119.4	123.7	123.6	124.1	119.4	120.6	120.5	121.0	120.8	122.3
Crude vegetable oils	129.8	118.1	116.6	115.1	126.1	131.5	135.2	138.5	143.4	130.6
Crude materials[5]	102.7	113.8	111.1	107.1	101.7	100.1	99.2	100.0	100.2	98.5
Foodstuffs and feedstuffs	105.8	121.5	112.2	111.3	105.5	105.1	106.6	106.2	106.2	105.6
Fruits and vegetables and nuts[6]	108.4	122.5	115.5	105.8	118.0	122.2	120.7	127.4	114.6	109.4
Grains	112.6	151.1	111.2	112.4	104.4	105.2	107.2	99.8	98.7	93.8
Slaughter livestock	92.8	95.2	96.3	96.2	85.6	83.6	85.4	87.9	90.7	90.7
Slaughter poultry, live	125.6	140.5	131.0	133.4	116.9	116.1	125.3	128.5	131.1	140.5
Plant and animal fibers	155.3	129.4	117.0	117.5	104.1	108.1	110.1	101.5	107.9	117.9
Fluid milk	93.7	107.9	97.5	91.0	105.9	106.7	105.0	104.3	98.1	100.5
Oilseeds	112.6	139.4	140.8	149.8	123.9	126.9	123.4	118.1	121.0	115.9
Leaf tobacco	78.9	89.4	--	--	112.9	112.9	104.3	99.3	--	--
Raw cane sugar	119.7	118.6	116.8	115.4	116.6	116.4	115.7	117.6	118.0	118.1

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.
Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the Bureau of Labor Statistics' PPI Information Hotline at (202) 606-7705.

Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual			1997				1998		
	1995	1996	1997	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Market basket[1]										
Retail cost (1982-84=100)	149.4	155.9	159.7	159.4	160.4	160.6	161.0	162.9	161.6	160.9
Farm value (1982-84=100)	102.7	111.1	106.2	108.1	103.6	106.8	105.5	102.6	102.1	102.3
Farm-retail spread (1982-84=100)	174.6	180.1	188.6	187.0	190.9	189.6	191.0	195.5	193.6	192.5
Farm value-retail cost (%)	24.1	24.9	23.3	23.7	22.6	23.3	22.9	22.0	22.1	22.3
Meat products										
Retail cost (1982-84=100)	135.5	140.1	144.4	143.1	145.2	144.7	143.4	143.2	142.4	142.2
Farm value (1982-84=100)	93.8	100.4	101.2	100.1	97.8	97.0	94.8	102.2	88.0	85.2
Farm-retail spread (1982-84=100)	178.2	180.9	188.6	187.2	193.8	193.6	193.3	185.3	198.2	200.7
Farm value-retail cost (%)	35.1	36.3	35.5	35.4	34.1	34.0	33.5	36.1	31.3	30.3
Dairy products										
Retail cost (1982-84=100)	132.8	142.1	145.5	146.1	145.7	147.0	147.8	148.3	147.7	148.4
Farm value (1982-84=100)	92.2	107.2	98.0	98.2	100.6	105.3	104.0	105.7	107.7	107.2
Farm-retail spread (1982-84=100)	170.3	174.3	189.3	190.2	187.3	185.5	188.2	187.5	184.6	186.4
Farm value-retail cost (%)	33.3	36.2	32.3	32.3	33.1	34.3	33.8	34.2	35.0	34.7
Poultry										
Retail cost (1982-84=100)	143.5	152.4	156.6	156.3	155.6	157.4	155.2	155.1	155.3	155.1
Farm value (1982-84=100)	113.7	126.2	120.6	121.3	114.4	113.4	105.7	106.9	109.7	112.2
Farm-retail spread (1982-84=100)	177.7	182.6	198.1	196.6	203.1	208.0	212.2	210.6	207.8	204.6
Farm value-retail cost (%)	42.4	44.3	41.2	41.5	39.3	38.6	36.4	36.9	37.8	38.7
Eggs										
Retail cost (1982-84=100)	120.5	142.1	140.0	141.0	135.9	145.1	151.1	149.0	147.7	141.0
Farm value (1982-84=100)	91.1	114.7	99.3	104.0	91.4	121.9	116.9	143.8	137.3	136.4
Farm-retail spread (1982-84=100)	173.2	191.4	213.0	207.5	215.8	186.9	212.6	223.7	255.3	218.0
Farm value-retail cost (%)	48.6	51.9	45.6	47.4	43.2	54.0	49.7	46.3	38.2	44.7
Cereal and bakery products										
Retail cost (1982-84=100)	167.5	174.0	177.6	176.7	178.4	178.0	178.4	179.0	179.7	179.6
Farm value (1982-84=100)	110.1	125.6	107.7	111.8	103.8	102.7	103.8	100.8	101.0	102.0
Farm-retail spread (1982-84=100)	175.5	180.7	187.4	185.8	188.8	188.5	188.8	189.9	190.7	190.4
Farm value-retail cost (%)	8.1	7.2	7.4	7.7	7.1	7.1	7.1	6.9	6.9	7.0
Fresh fruit										
Retail cost (1982-84=100)	226.9	243.0	245.1	240.3	254.0	243.3	250.1	250.5	249.6	245.6
Farm value (1982-84=100)	136.2	151.7	137.0	134.2	137.1	140.6	159.0	136.6	137.4	136.7
Farm-retail spread (1982-84=100)	268.7	285.2	295.0	289.3	307.9	290.7	292.1	303.1	301.4	295.9
Farm value-retail cost (%)	19.0	19.7	17.7	17.6	17.1	18.3	20.1	17.2	17.4	17.6
Fresh vegetables										
Retail cost (1982-84=100)	193.1	189.2	194.6	202.2	192.8	205.2	205.2	233.8	210.5	202.2
Farm value (1982-84=100)	130.1	113.3	118.7	148.3	113.0	131.2	122.7	126.4	125.2	136.2
Farm-retail spread (1982-84=100)	225.5	228.3	233.6	229.9	233.8	243.2	247.6	289.0	254.4	236.1
Farm value-retail cost (%)	22.9	20.3	20.7	24.9	19.9	21.7	20.3	18.4	20.2	22.9
Processed fruits and vegetables										
Retail cost (1982-84=100)	137.5	144.4	147.9	148.0	147.2	146.9	147.2	147.2	148.5	149.0
Farm value (1982-84=100)	120.5	121.5	115.9	117.4	113.1	115.0	115.1	117.5	117.2	117.2
Farm-retail spread (1982-84=100)	142.8	151.6	157.9	157.6	157.5	156.8	157.2	156.5	158.3	158.9
Farm value-retail cost (%)	20.8	20.0	18.6	18.9	18.4	18.6	18.6	19.0	18.8	18.7
Fats and oils										
Retail cost (1982-84=100)	137.3	140.5	141.7	142.4	141.7	140.4	140.3	140.5	141.5	142.2
Farm value (1982-84=100)	121.3	112.3	109.4	110.0	113.0	117.9	114.3	113.6	120.3	122.9
Farm-retail spread (1982-84=100)	143.1	150.9	153.6	154.3	152.3	148.7	149.9	150.4	149.3	149.3
Farm value-retail cost (%)	23.8	21.5	20.8	20.8	21.4	22.6	21.9	21.8	22.9	23.2

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			1997	1998					
	1995	1996	1997	Jun	Jan	Feb	Mar	Apr	May	Jun
Beef, All Fresh Retail Price (cts/lb)	259.4	252.4	253.8	251.7	253.2	252.7	256.3	255.4	253.1	253.2
Beef, Choice										
Retail price (cents/lb.)[2]	284.4	280.2	279.5	277.6	275.3	272.0	273.1	278.2	277.4	278.7
Wholesale value (cents)[3]	163.9	158.1	158.2	156.1	154.2	148.5	147.0	151.6	157.0	154.5
Net farm value (cents)[4]	138.4	134.9	137.2	133.2	135.8	128.0	129.9	136.4	137.1	134.8
Farm-retail spread (cents)	146.0	145.3	142.3	144.4	139.5	144.0	143.2	141.8	140.3	143.9
Wholesale-retail (cents)[5]	120.5	122.1	121.3	121.5	121.1	123.5	126.1	126.6	120.4	124.2
Farm-wholesale (cents)[6]	25.5	23.2	21.0	22.9	18.4	20.5	17.1	15.2	19.9	19.7
Farm value-retail price (%)	49	48	49	48	49	47	48	49	49	48
Pork										
Retail price (cents/lb.)[2]	194.8	220.9	231.5	233.7	234.8	234.5	229.8	225.0	226.7	228.9
Wholesale value (cents)[3]	98.8	117.2	117.1	123.0	96.2	94.0	91.4	91.0	99.8	98.0
Net farm value (cents)[4]	66.7	84.6	81.1	91.2	57.4	54.6	54.3	55.7	66.3	65.8
Farm-retail spread (cents)	128.1	136.3	150.4	142.5	177.4	179.9	175.5	169.3	160.4	163.1
Wholesale-retail (cents)[5]	96.0	103.7	114.4	110.7	138.6	140.5	138.4	134.0	126.9	130.9
Farm-wholesale (cents)[6]	32.1	32.6	36.0	31.8	38.8	39.4	37.1	35.3	33.5	32.2
Farm value-retail price (%)	34	38	35	39	24	23	24	25	29	29

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 byproduct. 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 price and farm value, represents charges for assembling, processing, transporting, distributing. 2. Weighted-average price 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 byproduct values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of byproducts. 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, Larry Duewer (202) 694-5172*

Table 9—Price Indexes of Food Marketing Costs

	Annual			1996			1997			
	1995	1996	1997	II	III	IV	I	II	III	IV
	1987=100*									
Labor--hourly earnings and benefits	455.2	459.7	474.3	458.5	459.1	465.3	469.3	473.0	474.6	480.2
Processing	472.5	474.7	486.0	474.6	474.7	480.2	481.4	484.9	487.1	490.5
Wholesaling	502.2	516.0	536.2	514.4	518.3	520.5	526.2	534.1	538.9	545.4
Retailing	417.1	419.9	435.2	417.7	417.3	426.1	432.1	434.1	433.6	441.1
Packaging and containers	415.7	399.8	390.3	400.0	397.0	393.1	392.1	388.7	387.6	392.9
Paperboard boxes and containers	392.1	363.8	341.9	366.1	352.1	348.9	347.2	335.4	334.7	350.3
Metal cans	504.9	498.3	491.0	501.9	502.8	481.8	489.4	496.1	490.8	487.9
Paper bags and related products	457.8	437.8	441.9	434.2	438.2	443.3	443.8	441.6	439.5	442.5
Plastic films and bottles	330.6	326.5	326.6	321.9	328.9	331.9	326.6	325.3	326.9	327.5
Glass containers	463.3	460.5	447.4	460.0	460.3	459.3	449.3	446.9	446.6	446.6
Metal foil	263.1	235.7	233.4	239.9	230.8	229.9	228.2	232.0	237.2	236.4
Transportation services	436.6	429.8	430.0	425.0	428.8	430.2	431.0	430.6	429.0	429.4
Advertising	539.1	580.1	609.4	579.2	580.6	582.8	608.1	608.7	609.3	611.6
Fuel and power	633.7	670.7	668.5	670.3	678.0	699.2	689.5	657.4	658.1	669.0
Electric	511.3	501.3	499.2	503.8	521.0	492.6	488.5	499.0	517.7	491.5
Petroleum	559.7	666.8	616.7	669.3	658.9	745.5	672.8	609.7	574.8	609.6
Natural gas	1,091.7	1,136.7	1,214.0	1,123.6	1,136.7	1,180.9	1,261.1	1,165.7	1,179.7	1,249.4
Communications, water and sewage	284.9	296.8	302.8	297.5	299.1	299.1	301.1	302.2	303.5	304.2
Rent	269.0	268.2	265.6	268.1	268.6	268.3	266.6	265.6	265.1	265.1
Maintenance and repair	486.1	499.6	514.9	497.2	501.4	506.2	509.6	513.0	517.3	519.7
Business services	491.0	501.7	512.3	500.1	503.3	506.6	509.5	511.7	513.9	514.1
Supplies	342.7	338.3	337.8	339.2	338.2	339.0	338.8	337.0	337.5	337.9
Property taxes and insurance	546.8	564.3	580.1	561.8	566.5	570.4	573.6	577.3	582.2	587.3
Interest, short-term	113.5	103.9	108.9	106.8	107.5	104.2	105.3	111.2	108.8	110.1
Total marketing cost index	444.8	452.1	459.9	450.9	451.9	455.6	458.6	458.4	459.1	463.4

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	Production[1]	Imports	Total supply	Exports	Ending stocks	Consumption Total	Consumption Per capita[2]	Conversion factor[3]	Primary market price[4]
				Million lbs.[5]				Lbs.		$/cwt
Beef										
1995	548	25,222	2,103	27,873	1,821	519	25,533	67	0.695	66
1996	519	25,525	2,073	28,117	1,877	377	25,863	68	0.700	65
1997	377	25,490	2,343	28,210	2,136	465	25,609	67	0.700	66
1998	465	25,871	2,644	28,980	2,100	350	26,530	69	0.700	63-65
1999	350	25,931	2,800	27,081	2,155	350	24,576	63	0.700	70-76
Pork										
1995	438	17,849	664	18,951	787	396	17,768	52	0.776	42
1996	396	17,117	618	18,131	970	366	16,795	49	0.776	53
1997	366	17,274	633	18,273	1,044	408	16,821	49	0.776	51
1998	408	18,757	600	19,765	1,200	470	18,095	52	0.776	36-37
1999	470	19,580	570	20,620	1,200	490	18,930	54	0.776	34-37
Veal[6]										
1995	7	319	0	326	0	7	319	1	0.83	75
1996	7	378	0	385	0	7	378	1	0.83	59
1997	7	334	0	341	0	8	333	1	0.83	82
1998	8	269	0	277	0	6	271	1	0.83	87
1999	6	255	0	261	0	6	255	1	0.83	95
Lamb and mutton										
1995	11	287	64	362	6	8	348	1	0.89	76
1996	8	268	73	349	6	9	334	1	0.89	72
1997	9	260	83	352	5	14	333	1	0.89	88
1998	14	241	98	353	8	11	334	1	0.89	72
1999	11	223	85	319	8	11	300	1	0.89	73
Total red meat										
1995	1,004	43,677	2,831	47,512	2,614	930	43,968	122	--	--
1996	930	43,288	2,764	46,982	2,853	759	43,370	120	--	--
1997	759	43,358	3,059	47,176	3,185	895	43,096	118	--	--
1998	895	45,138	3,342	49,375	3,308	837	45,230	123	--	--
1999	837	43,989	3,455	48,281	3,363	857	44,061	119	--	--
										¢/lb
Broilers										
1995	458	24,827	1	25,287	3,894	560	20,832	69	0.869	56
1996	560	26,124	4	26,688	4,420	641	21,626	71	0.869	61
1997	641	27,041	5	27,687	4,664	607	22,416	73	0.869	59
1998	607	27,754	4	28,365	4,941	650	22,774	73	0.869	59-61
1999	650	29,141	4	29,795	5,025	650	24,120	77	0.869	55-59
Mature chickens										
1995	14	496	3	513	99	7	406	2	1.0	--
1996	7	491	0	498	265	6	228	1	1.0	--
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	524	0	531	438	7	86	1	1.0	--
1999	7	546	0	554	412	5	137	1	1.0	--
Turkeys										
1995	254	5,069	2	5,326	348	271	4,706	18	1.0	66
1996	271	5,401	1	5,673	438	328	4,906	19	1.0	66
1997	328	5,412	1	5,741	598	415	4,727	18	1.0	65
1998	415	5,349	1	5,765	532	425	4,807	18	1.0	60-61
1999	425	5,334	1	5,760	600	400	4,759	18	1.0	60-64
Total poultry										
1995	727	30,393	6	31,125	4,342	839	25,944	88	--	--
1996	839	32,015	5	32,859	5,123	975	26,760	90	--	--
1997	975	32,964	6	33,944	5,646	1,029	27,269	91	--	--
1998	1,029	33,627	5	34,662	5,911	1,082	27,667	91	--	--
1999	1,082	35,021	5	36,108	6,037	1,055	29,015	95		
Red meat and poultry										
1995	1,731	74,070	2,837	78,637	6,956	1,769	69,912	210	--	--
1996	1,769	75,303	2,769	79,841	7,976	1,734	70,130	210	--	--
1997	1,734	76,322	3,065	81,120	8,831	1,924	70,364	209	--	--
1998	1,924	78,765	3,347	84,037	9,219	1,919	72,898	214	--	--
1999	1,919	79,010	3,460	84,389	9,400	1,912	73,076	213	--	--

-- = Not available. Values for the last year 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 Total	Consumption Per capita	Primary market price*
	Million doz.								*No.*	*¢/doz.*
1992	13.0	5,905.0	4.3	5,922.3	157.0	732.0	13.5	5,019.8	235.9	65.4
1993	13.5	6,005.8	4.7	6,023.9	158.9	769.6	10.7	5,084.6	236.4	72.5
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	6,371.3	5.4	6,387.9	253.1	863.8	8.5	5,262.4	237.8	88.2
1997	8.5	6,459.8	6.9	6,475.2	227.8	894.8	7.4	5,345.2	239.4	81.2
1998	7.4	6,631.9	6.2	6,645.5	239.7	926.9	10.0	5,468.9	242.8	73.9
1999	10.0	6,765.0	4.0	6,779.0	243.0	970.0	10.0	5,556.0	244.5	72.5

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[1]

	Production	Farm use	Commercial Farm marketings	Commercial Beg. stocks	Imports	Total commercial supply	CCC net removals	Commercial Ending stocks	Commercial Disappearance	All milk price[1]	CCC net removals Skim solids basis	CCC net removals Total solids basis[2]
	Billion lbs. (milkfat basis)									*$/cwt*	*Billion lbs.*	
1991	147.7	2.0	145.7	5.1	2.6	153.4	10.4	4.5	138.6	12.24	3.9	6.5
1992	150.9	1.9	149.0	4.5	2.5	155.9	9.9	4.7	141.3	13.09	2.0	5.2
1993	150.6	1.8	148.8	4.7	2.8	156.2	6.7	4.6	145.0	12.80	3.9	5.0
1994	153.7	1.7	152.0	4.6	2.9	159.4	4.8	4.3	150.3	12.97	3.7	4.2
1995	155.4	1.6	153.9	4.3	2.9	161.1	2.1	4.1	154.9	12.74	4.4	3.5
1996	154.3	1.5	153.8	4.1	2.9	159.8	0.1	4.7	155.0	14.74	0.7	0.5
1997	156.6	1.4	155.2	4.7	2.7	162.6	1.1	4.9	156.6	13.34	3.7	2.7
1998	158.0	1.4	156.6	4.9	3.3	164.4	0.5	4.9	159.4	14.30	3.5	2.3
1999	160.1	1.3	158.8	4.9	3.3	166.9	0.9	4.9	161.1	13.60	2.9	2.1

Values for the last year are forecasts, values for previous 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 1995	Annual 1996	Annual 1997	1997 May	1997 Dec	1998 Jan	1998 Feb	1998 Mar	1998 Apr	1998 May
Broilers										
Federally inspected slaughter certified (mil. lb.)	25,020.8	26,336.3	27,270.7	2,343.8	2,305.6	2,368.1	2,144.9	2,331.9	2,379.6	2,256.8
Wholesale price, 12-city (cents/lb.)	56.2	61.2	58.8	58.5	52.2	54.7	56.4	58.1	58.5	60.1
Price of grower feed ($/ton)[1]	135.1	175.5	157.8	175.0	146.0	147.0	143.0	141.0	138.0	137.0
Broiler-feed price ratio[2]	5.1	4.4	4.7	4.2	4.4	4.5	4.8	5.0	5.3	5.4
Stocks beginning of period (mil. lb.)	458.4	560.1	641.3	735.9	604.0	606.8	616.1	629.5	665.8	710.3
Broiler-type chicks hatched (mil.)	7,932.4	8,076.9	8,306.5	724.7	712.0	710.6	644.5	732.0	709.4	740.0
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,128.8	5,465.6	5,477.9	468.5	460.4	433.7	410.9	445.5	455.1	419.5
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.4	66.5	64.9	66.6	62.2	55.6	54.0	55.5	58.1	58.7
Price of turkey grower feed ($/ton)[1]	130.1	166.1	142.5	156.0	133.0	131.0	131.0	128.0	125.0	122.0
Turkey-feed price ratio[2]	6.3	5.3	5.6	5.3	5.8	5.4	5.2	5.4	5.7	5.8
Stocks beginning of period (mil. lb.)	254.4	271.3	328.0	543.3	438.6	415.1	497.6	512.7	527.0	580.2
Poults placed in U.S. (mil.)	321.7	327.2	321.5	29.1	25.7	26.2	25.1	26.4	25.7	25.8
Eggs										
Farm production (mil.)	74,587	76,456	77,515	6,507	6,814	6,742	6,071	6,829	6,571	6,632
Average number of layers (mil.)	294	298	303	302	311	311	312	313	311	308
Rate of lay (eggs per layer on farms)	253.8	256.2	255.2	21.6	21.9	21.7	19.5	21.8	21.1	21.5
Cartoned price, New York, grade A large (cents/doz.)[3]	72.9	88.2	81.2	72.3	90.3	83.2	72.4	81.4	75.6	72.3
Price of laying feed ($/ton)[1]	149.7	184.4	159.8	181.0	143.0	124.0	156.0	149.0	149.0	161.0
Egg-feed price ratio[2]	8.6	8.5	8.8	7.1	11.0	11.9	8.3	9.4	8.5	6.8
Stocks, first of month Frozen (mil. doz.)	14.8	10.5	7.7	6.4	7.8	7.4	9.1	9.3	7.9	7.0
Replacement chicks hatched (mil.)	397	407	422	39.1	35.9	37.2	34.6	40.0	39.9	39.6

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

	1995	1996	1997	1997 May	1997 Dec	1998 Jan	1998 Feb	1998 Mar	1998 Apr	1998 May
Milk--Basic Formula Price ($/cwt)[1]	11.83	13.39	12.05	10.70	13.29	13.25	13.32	12.81	12.01	10.88
Wholesale prices										
Butter, Central States (cents/lb.)[2]	81.9	108.2	116.2	95.5	133.4	117.8	139.8	134.1	136.4	153.2
Am. cheese, Wis. assembly pt. (cents/lb.)	132.8	149.1	132.4	116.5	146.1	144.5	144.7	138.8	129.7	123.0
Nonfat dry milk (cents/lb.)[3]	108.6	122.2	110.0	109.8	107.4	105.9	105.2	104.7	104.3	103.5
USDA net removals										
Total (mil. lb.)[4]	2,105.7	86.9	1,108.6	89.3	157.7	123.0	76.1	53.0	37.6	30.8
Butter (mil. lb.)	78.5	0.1	39.2	3.1	5.9	4.0	2.2	1.3	1.0	0.7
Am. cheese (mil. lb.)	6.1	4.6	11.3	1.3	0.5	0.7	0.7	0.6	0.6	0.5
Nonfat dry milk (Mil. lb.)	343.8	57.2	296.7	21.7	31.6	37.5	31.8	24.7	26.8	38.0
Milk										
Milk prod. 20 states (mil. lb.)	131,780	131,343	133,861	11,869	11,118	11,316	10,434	11,722	11,591	12,067
Milk per cow (lb.)	16,762	16,800	17,252	1,529	1,438	1,464	1,351	1,517	1,499	1,557
Number of milk cows (1,000)	7,862	7,818	7,759	7,765	7,732	7,730	7,726	7,725	7,735	7,750
U.S. milk production (mil. lb.)[5]	155,424	154,259	156,602	13,902	12,973	13,261	12,222	13,726	13,503	14,053
Stocks, beginning[4]										
Total (mil. lb.)	5,760	4,168	4,714	6,920	4,716	4,907	5,322	5,656	6,009	6,488
Commercial (mil. lb.)	4,263	4,099	4,704	6,900	4,697	4,889	5,306	5,640	5,990	6,460
Government (mil. lb.)	1,497	69	10	20	19	18	15	16	19	28
Imports, total (mil. lb.)[4]	2,936	2,911	2,698	196	342	196	215	310	279	317
Commercial disappearance (mil. lb.)[4]	154,843	154,985	156,578	13,339	12,844	12,802	11,923	13,518	13,163	14,019
Butter										
Production (mil. lb.)	1,264.5	1,174.5	1,151.2	102.7	106.0	113.5	102.7	100.8	103.0	92.2
Stocks, beginning (mil. lb.)	79.4	18.6	13.7	86.8	15.4	20.8	34.2	44.2	55.9	67.4
Commercial disappearance (mil. lb.)	1,186.3	1,179.8	1,107.9	83.1	94.9	97.6	91.4	89.1	91.8	86.9
American cheese										
Production (mil. lb.)	3,131.4	3,280.8	3,285.2	294.6	278.6	283.2	261.1	285.2	289.7	298.3
Stocks, beginning (mil. lb.)	310.4	307.0	379.9	429.5	405.9	410.8	412.2	411.0	421.8	441.6
Commercial disappearance (mil. lb.)	3,148.5	3,230.1	3,268.6	278.4	276.0	282.0	263.1	275.8	272.4	301.5
Other cheese										
Production (mil. lb.)	3,785.5	3,936.7	4,043.8	347.3	349.3	332.5	313.0	360.0	351.6	360.3
Stocks, beginning (mil. lb.)	126.8	105.3	107.3	126.8	68.9	70.0	81.7	98.8	98.2	103.1
Commercial disappearance (mil. lb.)	4,125.6	4,243.0	4,365.5	363.2	384.9	337.0	312.5	383.9	368.1	377.8
Nonfat dry milk										
Production (mil. lb.)	1,233.0	1,061.8	1,271.6	132.7	102.0	103.7	97.0	107.3	120.4	121.6
Stocks, beginning (mil. lb.)	131.2	85.0	71.4	118.7	122.1	124.9	130.1	141.4	140.7	167.9
Commercial disappearance (mil. lb.)	923.7	1,009.0	895.4	78.7	70.2	65.4	64.0	96.7	74.4	64.9
Frozen dessert										
Production (mil. gal.)[6]	1,229.6	1,240.9	1,281.4	123.5	80.6	83.3	91.7	109.4	115.4	118.6

	Annual 1995	Annual 1996	Annual 1997	1996 IV	1997 I	1997 II	1997 III	1997 IV	1998 I	1998 II
Milk production (mil. lb.)	155,424	154,259	156,602	37,946	38,961	40,683	38,805	38,153	39,209	40,997
Milk per cow (lb.)	16,433	16,479	16,915	4,071	4,192	4,384	4,195	4,144	4,268	4,457
No. of milk cows (1,000)	9,458	9,361	9,258	9,320	9,295	9,280	9,251	9,206	9,186	9,199
Milk-feed price ratio	1.63	1.60	1.54	1.67	1.54	1.45	1.47	1.71	1.73	1.67
Returns over concentrate costs ($/cwt milk)	9.50	10.98	9.80	11.55	9.85	9.05	9.05	11.00	11.10	10.20

-- = Not available. Quarterly values for latest year are preliminary. 1. Manufacturing grade milk. 2. Grade AA Chicago before June 1998. 3. Prices paid f.o.b. Central States production area. 4. Milk equivalent, fat basis. 5. Monthly data ERS estimates. 6. Hard ice cream, ice milk, and hard sherbet.

Information contact: LaVerne Williams (202) 694-5190

Table 15—Wool

	Annual 1995	Annual 1996	Annual 1997	1997 I	1997 II	1997 III	1997 IV	1998 I	1998 II
U.S. wool price (cents/lb.)[1]	258	193	238	196	244	255	258	209	178
Imported wool price (cents/lb.)[2]	249	196	206	196	210	213	204	192	176
U.S. mill consumption, scoured									
Apparel wool (1,000 lb.)	129,299	129,525	130,386	33,124	33,830	30,638	32,794	29,330	--
Carpet wool (1,000 lb.)	12,667	12,311	13,576	3,437	3,324	3,395	3,420	3,572	--

-- = 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			1997	1998					
	1995	1996	1997	Jun	Jan	Feb	Mar	Apr	May	Jun
Cattle on feed (7 states,										
1000+ head capacity)										
Number on feed (1,000 head)[1]	8,031	8,667	8,943	8,231	9,455	9,180	8,835	8,607	8295	8289
Placed on feed (1,000 head)	20,034	19,564	20,765	1,224	1,492	1,250	1,421	1,358	1740	1314
Marketings (1,000 head)	18,753	18,636	19,552	1,732	1,689	1,539	1580	1609	1681	1727
Other disappearance (1,000 head)	674	652	701	44	78	56	69	61	65	51
Market prices ($/cwt)										
Slaughter cattle										
Choice steers, 1,100-1,300 lb.										
Texas	66.69	65.06	65.99	63.53	64.57	60.77	62.05	64.52	64.52	63.85
Neb. direct	66.26	65.05	66.32	64.07	63.57	59.74	61.89	64.68	64.4	63.26
Boning utility cows, Sioux Falls	35.58	30.33	34.27	35.44	38.14	38.5	38.19	38.44	39.3	39.61
Feeder steers										
Medium no. 1, Oklahoma City										
600-650 lb.	70.49	61.31	81.34	84.85	81.54	83.14	85.65	86.2	85.86	77.4
750-800 lb.	68.03	61.08	76.19	78.80	77.23	75.28	73.95	74.96	73.95	72.96
Slaughter hogs										
Barrows and gilts, 230-250 lb.										
Iowa, S. Minn.	42.35	53.39	51.36	57.60	35.6	34.53	33.97	34.44	42	41.57
5 markets	41.99	53.42	51.30	57.42	35.82	34.11	34.29	35.12	41.74	41.4
Sows, 5 markets	32.62	44.61	44.51	47.96	27.52	28.49	28.17	28.19	30.37	30.54
Slaughter sheep and lambs										
Lambs, Choice, San Angelo	75.86	85.27	87.95	83.25	74.38	74.31	70.3	71.5	73	91.21
Ewes, Good, San Angelo	33.91	39.05	49.33	31.94	49.75	50.69	50.95	43.38	35.13	37.88
Feeder lambs										
Choice, San Angelo	81.08	94.88	104.43	101.00	95.31	92	82.8	76	76.56	88
Wholesale meat prices, Midwest										
Boxed beef cut-out value										
Choice, 700-800 lb.	106.09	102.01	102.75	101.63	99.16	94.57	94.04	97.61	101.49	99.58
Select, 700-800 lb.	98.45	95.34	96.15	95.65	96.76	92.77	91.97	96.23	92.24	94.71
Canner and cutter cow beef	68.67	58.18	64.50	66.76	62	65.64	64.08	65.6	66.58	63.5
Pork cutout	--	--	--	--	54.66	54.52	53.41	54.25	63.94	62.45
Pork loins, bone-in, 1/4 " trim,14-19 lb.	126.99	138.73	128.75	136.06	104.08	103.03	104.56	102.51	130.64	113.13
Pork bellies, 12-14 lb.	43.04	69.96	73.91	80.68	48.39	45.89	42.28	54.65	57.87	63.1
Hams, bone-in, trimmed, 20-27 lb.	--	--	--	--	46.35	48.88	46.41	42.82	46.62	50.8
All fresh beef retail price	259.42	252.44	253.72	251.70	253.3	252.7	256.3	255.4	253.1	253.2
Commercial slaughter (1,000 head)[2]										
Cattle	35,639	36,583	36,351	3,036	3,040	2,747	2,894	2,928	2,958	--
Steers	18,274	17,819	17,554	1,545	1,450	1,346	1,380	1,422	1,486	--
Heifers	10,399	10,756	11,538	999	974	894	997	970	962	--
Cows	6,281	7,274	6,563	458	568	462	470	484	457	--
Bull and stags	686	728	696	61	48	45	47	51	53	--
Calves	1,430	1,768	1,574	119	128	113	127	109	102	--
Sheep and lambs	4,560	4,184	3,911	303	310	309	356	384	281	--
Hogs	96,326	92,394	91,566	7,001	8,588	7,711	8,477	8,329	7,572	--
Barrows and gilts	91,683	88,224	88,253	6,695	8,271	7,417	8,152	7,998	7,269	--
Commercial production (mil. lb.)										
Beef	25,117	25,421	25,384	2,133	2,157	1,977	2,081	2,090	2,124	--
Veal	307	368	323	26	24	21	23	20	19	--
Lamb and mutton	284	265	257	21	21	21	26	25	19	--
Pork	17,810	17,084	17,245	1,312	1,634	1,457	1,596	1,566	3,582	--

	Annual			1997				1998		
	1995	1996	1997	I	II	III	IV	I	II	III
Hogs and pigs (U.S.)[3]										
Inventory (1,000 head)[1]	59,990	58,264	56,141	56,141	55,838	58,263	61,163	60,915	60,070	61,600
Breeding (1,000 head)[1]	7,060	6,839	6,667	6,667	6,842	6,960	6,944	6,986	6,986	7,018
Market (1,000 head)[1]	52,930	51,425	49,474	49,474	48,996	51,303	54,219	53,929	53,084	54,582
Farrowings (1,000 head)	11,847	11,187	11,440	2,702	2,944	2,959	2,929	2,898	3,055	3,034
Pig crop (1,000 head)	98,516	94,956	98,972	23,264	25,471	25,796	25,315	25,164	26,714	--
Cattle on Feed, 7 states (1,000 head)[4]										
Steers and Steer Calves	5,218	5,588	5410	5,410	5,417	4,615	5,147	5803	5245	4609
Heifers and Heifer Calves	2,785	3,005	3455	3,455	3,431	3,026	3,383	3615	3325	3191
Cows and Bulls	30	74	78	78	56	38	28	37	37	26

-- = Not available. 1. Beginning of period. 2. Classes estimated. 3. Quarters are Dec. of preceding year to Feb. (1), Mar.-May (II), June-Aug. (III), ar 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[1,2]

	Area: Set aside[3]	Area: Planted	Area: Harvested	Yield	Production	Total supply[4]	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price[5]
		Mil. acres		Bu./acre				Mil. bu.				$/bu.
Wheat												
1994/95	5.2	70.3	61.8	37.6	2,321	2,981	344	942	1,188	2,475	507	3.45
1995/96	6.1	69.1	60.9	35.8	2,183	2,757	153	987	1,241	2,381	376	4.55
1996/97	--	75.6	62.9	36.3	2,285	2,753	314	995	1,001	2,310	444	4.30
1997/98*	--	71.0	63.6	39.7	2,527	3,063	293	1,007	1,040	2,340	723	3.40
1998/99*	--	65.8	59.2	42.6	2,522	3,336	400	1,018	1,050	2,468	868	2.70-3.10
		Mil. acres		lb./acre				Mil. cwt (rough equiv)				$/cwt
Rice[6]												
1994/95	0.3	3.4	3.3	5,964.0	197.8	230.9	--	6/ 100.7	98.9	199.6	31.3	6.78
1995/96	0.5	3.1	3.1	5,621.0	173.9	212.6	--	6/ 104.6	83.0	187.6	25.0	9.15
1996/97	--	2.8	2.8	6,121.0	171.3	206.3	--	6/ 100.7	78.4	179.1	27.2	9.96
1997/98*	--	3.1	3.0	5,896.0	178.9	215.9	--	6/ 106.9	84.0	190.9	25.0	9.65
1998/99*	--	3.2	3.2	5,930.0	189.0	224.0	--	6/ 108.9	85.0	193.9	30.1	8.50-9.50
		Mil. acres		Bu./acre				Mil. bu.				$/bu.
Corn												
1994/95	2.4	79.2	72.9	138.6	10,103	10,962	5,523	1,704	2,177	9,405	1,558	2.26
1995/96	7.7	71.2	65.0	113.5	7,374	8,948	4,682	1,612	2,228	8,522	426	3.24
1996/97	--	79.5	73.1	127.1	9,293	9,733	5,362	1,692	1,795	8,849	883	2.71
1997/98*	--	80.2	73.7	127.0	9,366	10,259	5,550	1,800	1,475	8,825	1,434	2.45
1998/99*	--	80.8	74.3	129.6	9,625	11,069	5,750	1,875	1,600	9,225	1,844	1.95-2.35
		Mil. acres		Bu./acre				Mil bu.				$/bu.
Sorghum												
1994/95	1.6	9.8	8.9	72.8	649	697	400	3	223	625	72	2.13
1995/96	1.7	9.5	8.3	55.6	460	532	305	11	198	514	18	3.19
1996/97	--	13.2	11.9	67.5	803	821	529	40	205	774	47	2.34
1997/98*	--	10.1	9.4	69.5	653	701	420	35	205	660	41	2.20
1998/99*	--	8.9	8.1	64.7	525	566	285	35	195	515	51	1.80-2.20
		Mil. acres		Bu./acre				Mil. bu.				$/bu.
Barley												
1994/95	2.7	7.2	6.7	56.2	375	580	228	173	66	467	113	2.03
1995/96	2.9	6.7	6.3	57.3	360	513	179	172	62	413	100	2.89
1996/97	--	7.1	6.8	58.5	396	532	220	172	31	423	109	2.74
1997/98*	--	6.9	6.4	58.3	374	522	155	172	75	402	120	2.35
1998/99*	--	6.4	6.1	61.9	376	531	210	172	25	407	124	1.85-2.25
		Mil. acres		Bu./acre				Mil. bu.				$/bu.
Oats												
1994/95	0.6	6.6	4.0	57.1	229	428	234	92	1	327	101	1.22
1995/96	0.8	6.3	3.0	54.7	162	343	183	92	2	277	66	1.67
1996/97	--	4.7	2.7	57.8	155	319	155	95	3	252	67	1.96
1997/98*	--	5.2	2.9	60.5	176	348	177	95	2	274	74	1.60
1998/99*	--	5.0	2.9	62.4	183	357	175	95	2	272	85	1.05-1.45
		Mil. acres		Bu./acre				Mil. bu.				$/bu.
Soybeans[7]												
1994/95	--	60.1	57.3	32.6	1,871	2,170	7/ 96	1,276	589	1,961	209	6.40
1995/96	--	61.7	60.9	41.4	2,517	2,731	7/ 153	1,405	838	2,396	335	5.48
1996/97	--	64.2	63.4	37.6	2,382	2,575	7/ 126	1,436	882	2,443	131	7.35
1997/98*	--	70.9	69.9	39.0	2,727	2,863	7/ 188	1,580	880	2,648	215	6.45
1998/99*	--	72.7	71.7	39.5	2,830	3,050	7/ 140	1,600	875	2,615	435	4.85-5.85
								Mil. lbs.				¢/lb.
Soybean oil												
1994/95	--	--	--	--	13,951	15,574	--	12,941	1,529	14,471	1,103	27.10
1995/96	--	--	--	--	15,613	16,733	--	12,916	2,680	15,597	1,137	27.58
1996/97	--	--	--	--	15,752	17,821	--	14,263	2,037	16,300	1,520	22.50
1997/98*	--	--	--	--	17,785	19,360	--	15,100	2,800	17,900	1,460	26.25
1998/99*	--	--	--	--	18,000	19,520	--	15,250	2,850	18,100	1,420	26.00-28.00
								1,000 tons				$/ton[8]
Soybean meal												
1994/95	--	--	--	--	30,514	30,788	--	25,283	5,356	30,639	150	192.9
1995/96	--	--	--	--	33,270	33,483	--	26,542	6,717	33,260	223	162.6
1996/97	--	--	--	--	34,210	34,524	--	27,320	6,994	34,314	210	270.9
1997/98*	--	--	--	--	37,445	37,715	--	28,400	9,050	37,450	265	185.0
1998/99*	--	--	--	--	37,910	38,225	--	29,375	8,600	37,975	250	143-157

See footnotes at end of table, next page

Table 17—Supply & Utilization (continued)

	Area: Set aside[3]	Area: Planted	Area: Harvested	Yield	Production	Total Supply[4]	Feed & residual	Other domestic use	Exports	Total Use	Ending stocks	Farm price[5]
		Mil. acres		*Lb./acre*				*Mil. bales*				*¢/lb.*
Cotton[9]												
1994/95	1.7	13.7	13.3	708	19.7	23.2	--	11.2	9.4	20.6	2.7	72.0
1995/96	0.3	16.9	16.0	536	17.9	21.0	--	10.7	7.7	18.3	2.6	75.4
1996/97	--	14.6	12.9	707	18.9	22.0	--	11.1	6.9	18.1	4.0	69.3
1997/98*	--	13.8	13.3	680	18.8	22.8	--	11.4	7.4	18.8	4.0	64.8
1998/99*	--	12.9	11.2	645	15.0	19.0	--	11.0	5.0	16.0	3.0	--

-- = Not available or not applicable. *July 10, 1998 Supply and Demand Estimates. 1. Marketing year beginning June1 for wheat, barley, and oats, August 1 for cotton and rice, September 1 for soybeans, corn, and sorghum, October 1 for soymeal and soyoil. 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 bushes 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, 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[1]: 1994/95	1995/96	1996/97	1997: May	Dec	1998: Jan	Feb	Mar	Apr	May
Wheat, no. 1 HRW, Kansas City ($/bu.)[2]	3.97	5.49	4.88	4.61	3.72	3.61	3.64	3.61	3.39	3.41
Wheat, DNS, Minneapolis ($/bu.)[3]	4.26	5.72	4.97	4.58	4.27	4.12	4.15	4.26	4.29	4.24
Rice, S.W. La. ($/cwt)[4]	14.55	18.90	20.34	20.50	19.15	19.00	19.00	18.55	18.38	18.31
Corn, no. 2 yellow, 30-day, Chicago ($/bu.)	2.43	3.97	2.84	2.86	2.70	2.73	2.72	2.71	2.53	2.50
Sorghum, no. 2 yellow, Kansas City ($/cwt)	4.10	6.66	4.54	4.63	4.26	4.33	4.36	4.40	4.10	4.09
Barley, feed, Duluth ($/bu.)	2.02	2.67	2.32	2.45	1.66	1.58	1.56	1.51	1.42	--
Barley, malting Minneapolis ($/bu.)	2.75	3.69	3.18	--	--	--	--	--	--	--
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.)[5]	88.10	83.00	71.60	69.30	68.90	64.60	63.66	67.04	61.88	65.21
Northern Europe prices cotton index (¢/lb.)[6]	92.70	85.60	78.70	79.38	77.10	74.70	68.68	68.41	65.08	64.61
U.S. M 1-3/32 in. (¢/lb.)[7]	99.70	94.70	82.90	80.75	79.80	77.30	74.50	75.38	71.75	73.06
Soybeans, no. 1 yellow, 30-day Chicago ($/bu)	5.48	6.72	7.38	8.72	7.18	6.92	6.75	6.55	6.43	6.42
Soybean oil, crude, Decatur (¢/lb.)	27.60	24.75	22.50	23.68	25.73	25.08	26.51	27.09	28.10	28.27
Soybean meal, 48% protein, Decatur ($/ton)	162.55	236.00	270.90	306.40	245.30	222.50	192.75	174.20	162.50	160.00

-- = 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 soymeal and oil. 2. Ordinary protein. 3. 14 percent protein. 4. Long grain, milled basis. 5. Average spot market. 6. Liverpool Cotlook "A" Index; average of 5 lowest prices of 13 selected growths. 7. 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, & Payment Rates

	Target price	Basic loan rate	Payment rates: Findley or announced loan rate[1]	Payment rates: Total deficiency	Effective base acres[2]	Program[3]	Flexibility contract payment rate	Acres under contract	Contract payment yields	Participation rate[4]
	$/bu.				Mil. acres	Percent of base	$/bu.	Mil. acres	Bu./cwt	Percent
Wheat										
1994/95	4.00	2.72	2.58	0.61	78.10	0/0/0	--	--	--	87
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[8]	--	--	2.58	--	--	--	0.660	76.7	34.70	--
		$/cwt					$/cwt			
Rice										
1994/95	10.71	6.50	5.88 [5]	3.79	4.20	0/0/0	--	--	--	95
1995/96	10.71	6.50	6.50 [5]	*3.22 [9]	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[8]	--	6.50	--	--	--	--	2.930	4.2	48.17	--
		$/bu.					$/bu.			
Corn										
1994/95	2.75	1.99	1.89	0.57	81.50	0/0/0	--	--	--	81
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[8]	--	--	1.89	--	--	--	0.370	80.9	102.60	--
		$/bu.					$/bu.			
Sorghum										
1994/95	2.61	1.89	1.80	0.59	13.50	0/0/0	--	--	--	81
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[8]	--	--	1.74	--	--	--	0.450	13.1	56.50	--
		$/bu.					$/bu.			
Barley										
1994/95	2.36	1.62	1.54	0.52	10.70	0/0/0	--	--	--	84
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[8]	--	--	1.56	--	--	--	0.280	10.5	46.70	--
		$/bu.					$/bu.			
Oats										
1994/95	1.45	1.02	0.97	0.19	6.80	0/0/0	--	--	--	40
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[8]	--	--	1.11	--	--	--	0.030	6.2	50.60	--
		$/bu.					$/bu.			
Soybeans[6]										
1994/95	--	--	4.92	--	--	--	--	--	--	--
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
1998/99	--	--	5.26	--	--	--	--	--	--	--
		Cents/lb.					Cents/lb.			
Upland cotton										
1994/95	72.90	50.00	50.00 [7]	4.60	15.30	11/0/0	--	--	--	89
1995/96	72.90	51.92	51.92 [7]	*0.0 [9]	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[8]	--	51.92	--	--	--	--	7.900	16.2	608.00	--

-- = 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. A marketing loan 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. 6. There are no target prices, base acres, acreage reduction programs or deficiency payment rates for soybeans. 7. A marketing loan 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. 8. Estimated payment rates and acres under contract. 9. Guaranteed payment rates for producers in the 50/85/92 program were $0.034/lb. for upland cotton and $4.21/cwt. for rice.
Note: The 1996 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

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Citrus[1]										
Production (1,000 tons)	13,186	10,860	11,285	12,452	15,274	14,561	15,799	16,009	17,468	18,160
Per capita consump. (lb.)[2]	23.6	21.4	19.1	24.4	26.0	25.0	24.1	24.9	27.6	29.3
Noncitrus[3]										
Production (1,000 tons)	16,345	15,640	15,740	17,124	16,563	17,341	16,356	16,117	17,656	--
Per capita consump. (lb.)[2]	72.3	70.7	70.6	74.5	73.1	75.6	73.6	74.1	73.5	--
	1997					1998				
	May	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Grower prices										
Apples (cents/pound)[4]	14.3	24.2	24.0	22.1	23.7	22.3	21.6	21.3	19.2	18.2
Pears (cents/pound)[4]	25.2	18.0	16.7	16.5	14.4	12.7	13.0	12.2	14.6	18.7
Oranges ($/box)[5]	4.76	6.95	3.69	2.15	2.53	2.58	3.53	4.75	5.82	5.68
Grapefruit ($/box)[5]	-0.14	4.18	4.15	2.49	2.57	1.79	1.61	1.03	1.36	0.42
Stocks, ending										
Fresh apples (mil. lb.)	1,253	2,968	5,701	5,165	4,423	3,729	2,841	2,277	1,626	1,113
Fresh pears (mil. lb.)	34	616	585	446	337	273	212	125	61	32
Frozen fruits (mil. lb.)	726	1,051	1,440	1,356	1,233	1,128	1,009	882	808	767
Frozen conc.orange juice (mil. single-strength gallons)	888	526	466	496	614	794	828	826	1,010	1,057

-- = 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

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Production[1]										
Total vegetables (1,000 cwt)	467,915	543,435	562,938	565,754	677,975	675,793	762,934	742,595	759,347	752,266
Fresh (1,000 cwt)[2, 4]	240,249	254,418	254,039	242,733	393,249	377,698	396,671	391,699	408,823	428,171
Processed (tons)[3,4]	11,383,320	14,450,860	15,444,970	16,151,030	14,236,320	14,904,750	18,313,150	17,544,780	17,526,190	16,204,740
Mushrooms (1,000 lbs)[5]	667,759	714,992	749,151	746,832	776,357	750,799	782,340	777,870	776,677	--
Potatoes (1,000 cwt)	356,438	370,444	402,110	417,622	425,367	428,693	467,054	443,606	498,633	459,912
Sweetpotatoes (1,000 cwt)	10,945	11,358	12,594	11,203	12,005	11,053	13,395	12,906	13,456	13,025
Dry edible beans (1,000 cwt)	19,253	23,729	32,379	33,765	22,615	21,913	29,028	30,812	27,960	29,156
	1997						1998			
	Apr	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Shipments (1,000 cwt)										
Fresh	30,888	16,857	14,732	19,060	18,525	16,843	23,713	18,723	20,292	28,362
Iceberg lettuce	4,123	3,225	3,195	3,417	3,144	2,584	4,089	3,233	3,094	4,125
Tomatoes, all	4,965	2,648	2,356	3,367	2,737	3,196	4,189	3,057	3,647	4,767
Dry-bulb onions	4,020	3,162	3,437	4,172	3,270	2,997	4,075	3,436	2,753	4,009
Others[6]	17,780	7,822	5,744	8,104	9,374	8,066	11,360	8,997	10,798	15,461
Potatoes, all	23,489	8,352	9,589	13,328	12,180	11,925	16,328	11,870	15,619	23,416
Sweetpotatoes	211	127	152	375	636	172	146	180	252	373

-- = 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, and cabbage, cauliflower, celery, sweet corn, cucumbers, eggplant, bell peppers, honeydews, and watermelons. *Information contact: Gary Lucier (202) 694-5253*

Table 22—Other Commodities

	Annual			1996	1997				1998	
	1995	1996	1997	IV	I	II	III	IV	I	II
Sugar										
Production[1]	7,978	7,268	7,418	3,977	2,129	694	570	3,874	2,075	679
Deliveries[1]	9,451	9,633	9,764	2,405	2,215	2,390	2,557	2,471	2,215	2,436
Stocks, ending[1]	2,908	3,195	3,376	3,139	3,285	2,285	1,492	2,908	3,901	2,734
Coffee										
Composite green price N.Y. (¢/lb.)	142.18	109.35	146.49	116.31	118.16	117.30	103.13	98.82	134.80	172.99
Imports, green bean equiv. (mil. lbs.)[2]	2,182	2,494	--	--	--	--	--	--	--	--
	Annual			1997			1998			
	1995	1996	1997	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Tobacco										
Avg. price to grower[3]										
Flue-cured ($/lb.)	1.79	1.83	1.73	--	1.76	--	--	--	--	--
Burley ($/lb.)	1.85	1.92	1.91	--	1.91	1.92	1.88	1.80	1.76	1.70
Domestic taxable removals										
Cigarettes (bil.)	490.3	486.0	471.4	37.8	35.3	42.2	35.9	37	--	--
Large cigars (mil.)[4]	2,561.7	3,166.4	3,552.9	276.3	323.4	298.2	260.8	319	--	--

-- = 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: Fannye Jolly (202) 694-5249; tobacco, Tom Capehart (202) 694-5245*

World Agriculture

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

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98 F	1998/99 F
					Million units					
Wheat										
Area (hectares)	225.8	231.4	222.5	223.1	222.4	215.3	219.5	230.9	230.0	225.3
Production (metric tons)	533.2	588.0	542.9	562.2	559.4	524.5	537.8	582.4	610.3	601.4
Exports (metric tons[1]	103.7	101.1	111.1	112.7	101.1	100.0	98.0	99.8	99.8	97.7
Consumption (metric tons)[2]	532.7	561.9	555.5	550.2	562.3	547.5	549.9	578.1	588.1	602.8
Ending stocks (metric tons)[3]	118.9	145.1	132.5	144.5	141.5	118.5	106.4	110.6	132.9	131.5
Coarse grains										
Area (hectares)	321.8	316.2	321.8	323.7	317.5	323.3	313.5	322.5	316.0	313.2
Production (metric tons)	793.7	828.6	810.3	871.8	799.5	873.4	801.9	907.8	891.6	898.6
Exports (metric tons[1]	104.7	89.1	95.6	91.9	85.3	98.0	87.9	93.3	88.4	88.0
Consumption (metric tons)[2]	817.7	817.0	809.6	843.7	839.2	860.9	840.3	878.5	886.2	891.8
Ending stocks (metric tons)[3]	123.2	134.8	135.6	163.6	123.8	136.3	97.9	127.2	132.6	139.3
Rice, milled										
Area (hectares)	146.5	146.6	147.4	146.7	145.5	147.9	148.1	149.6	148.4	149.8
Production (metric tons)	343.9	352.0	354.7	355.8	355.6	364.8	371.2	380.0	383.5	387.9
Exports (metric tons[1]	11.7	12.1	14.1	14.9	16.4	21.0	19.6	18.8	23.4	20.2
Consumption (metric tons)[2]	338.2	347.4	356.4	357.9	358.7	366.9	371.2	379.0	382.6	386.8
Ending stocks (metric tons)[3]	54.5	59.1	57.5	55.3	52.2	50.1	50.1	51.1	52.0	52.1
Total grains										
Area (hectares)	694.1	694.2	691.7	693.5	685.4	686.5	681.1	703.0	694.4	688.3
Production (metric tons)	1,670.8	1,768.6	1,707.9	1,789.8	1,714.5	1,762.7	1,710.9	1,870.2	1,885.4	1887.9
Exports (metric tons[1]	220.1	202.3	220.8	219.5	202.8	219.0	205.5	211.9	211.6	205.9
Consumption (metric tons)[2]	1,668.6	1,726.3	1,721.5	1,751.8	1,760.2	1,775.3	1,761.4	1,835.6	1,856.9	1881.4
Ending stocks (metric tons)[3]	296.6	339.0	325.6	363.4	317.5	304.9	254.4	288.9	317.5	322.9
Oilseeds										
Crush (metric tons)	171.7	176.7	185.1	184.4	190.1	208.1	217.5	219.1	229.2	235.6
Production (metric tons)	212.4	215.7	224.3	227.5	229.4	261.7	258.4	261.0	285.5	288.3
Exports (metric tons)	35.6	33.4	37.6	38.2	38.7	44.1	44.3	49.3	52.4	51.8
Ending stocks (metric tons)	23.7	23.4	21.9	23.6	20.3	27.2	22.1	16.4	22.1	26.7
Meals										
Production (metric tons)	116.8	119.3	125.2	125.2	131.7	142.1	147.4	149.4	155.6	160.7
Exports (metric tons)	39.8	40.7	42.2	40.8	44.9	46.7	49.7	50.3	50.7	53.6
Oils										
Production (metric tons)	57.1	58.1	60.6	61.1	63.7	69.6	73.1	75.3	77.2	79.7
Exports (metric tons)	20.4	20.5	21.3	21.3	24.3	27.1	26.0	28.8	29.0	29.9
Cotton										
Area (hectares)	31.6	33.2	34.8	32.6	30.7	32.2	35.9	33.8	33.4	32.7
Production (bales)	79.7	87.1	95.7	82.5	76.7	85.6	93.0	89.4	90.8	86.3
Exports (bales)	31.3	29.8	28.2	25.6	26.7	28.4	27.8	26.8	26.2	26.2
Consumption (bales)	86.9	85.6	86.0	85.8	85.5	85.6	87.1	88.2	88.1	88.4
Ending stocks (bales)	24.8	26.9	37.0	34.4	26.3	28.3	33.8	37.0	40.1	38.0
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998 F
Red meat[4]										
Production (metric tons)	112.3	116.9	117.7	117.3	119.3	124.6	130.2	135.5	137.4	140.1
Consumption (metric tons)	110.9	114.8	116.1	115.7	118.3	123.5	128.7	132.8	135.1	138.9
Exports (metric tons)[1]	8.2	7.5	7.5	7.4	7.4	8.1	8.2	8.5	8.6	8.5
Poultry[4]										
Production (metric tons)	33.1	37.6	39.6	38.0	40.5	43.9	47.7	50.5	52.7	54.8
Consumption (metric tons)	32.6	36.5	38.4	37.0	39.4	42.5	46.2	48.8	50.8	53.0
Exports (metric tons)[1]	1.7	2.4	2.8	2.4	2.8	3.7	4.6	5.3	5.7	5.9
Dairy										
Milk production (metric tons)[5]	387.4	395.0	377.6	378.4	377.6	378.4	380.8	379.8	381.2	383.4

Values in the last column are forcast. 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, Shayle Shagam (202) 694-5186; dairy, LaVerne Williams (202) 694-5190*

U.S. Agricultural Trade

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

	Annual			1997			1998			
	1995	1996	1997	Jun	Nov	Dec	Mar	Apr	May	Jun
Export commodities										
Wheat, f.o.b. vessel, Gulf ports ($/bu.)	4.82	5.63	4.35	4.04	4.09	3.95	3.79	3.55	3.50	3.28
Corn, f.o.b. vessel, Gulf ports ($/bu.)	3.13	4.17	2.98	2.86	2.99	2.90	2.90	2.72	2.70	2.65
Grain sorghum, f.o.b. vessel, Gulf ports ($/bu.)	3.13	3.90	2.89	2.84	2.90	2.85	2.83	2.68	2.63	2.56
Soybeans, f.o.b. vessel, Gulf ports ($/bu.)	6.50	7.88	7.94	8.51	7.48	7.23	6.83	6.68	6.66	6.59
Soybean oil, Decatur (cents/lb.)	26.75	23.75	23.33	22.97	25.73	25.08	27.09	28.10	28.28	25.83
Soybean meal, Decatur ($/ton)	173.70	246.67	266.70	287.90	245.34	225.52	174.20	162.51	160.03	168.55
Cotton, 7-market avg. spot (cents/lb.)	93.45	77.93	69.62	71.03	65.35	64.57	67.04	61.88	65.21	73.50
Tobacco, ag. price at auction (cents/lb.)	178.79	183.20	182.74	---	184.46	192.05	177.45	169.05	---	---
Rice, f.o.b., mill, Houston ($/cwt)	16.68	19.64	20.88	21.75	19.75	19.75	19.05	19.00	19.00	19.00
Inedible tallow, Chicago (cents/lb.)	19.22	20.13	20.75	18.09	22.88	22.60	17.53	17.38	20.35	19.63
Import commodities										
Coffee, N.Y. spot ($/lb.)	1.45	1.29	2.05	2.88	1.60	1.76	1.62	1.57	1.43	1.30
Rubber, N.Y. spot (cents/lb.)	82.52	72.88	55.40	57.73	48.14	40.61	41.70	41.27	42.65	41.26
Cocoa beans, N.Y. ($/lb.)	0.61	0.62	0.69	0.66	0.73	0.76	0.74	0.75	0.78	0.74

Information contact: Mary Teymourian (202) 694-5284, or e-mail maryt@econ.ag.gov

Table 25—Trade Balance

	Calendar Year			1997		1998				
	1996	1997	1998 F	May	Dec	Jan	Feb	Mar	Apr	May
	$ million									
Exports										
Agricultural	60,445	57,245	56,000	4,366	5,243	4,809	4,727	4,733	4,249	3,928
Nonagricultural	521,692	585,977	--	50,168	50,779	46,726	47,035	53,299	48,859	48,774
Total[2]	582,137	643,222	--	54,534	56,022	51,535	51,762	58,032	53,108	52,702
Imports										
Agricultural	33,643	36,289	38,000	3,217	3,262	3,197	3,107	3,453	3,328	2,981
Nonagricultural	756,827	828,412	--	68,093	71,032	67,198	65,369	74,105	72,059	70,193
Total[3]	790,470	864,701	--	71,310	74,294	70,395	68,476	77,558	75,387	73,174
Trade balance										
Agricultural	26,802	20,956	18,000	1,149	1,981	1,612	1,620	1,280	921	947
Nonagricultural	-235,135	-242,435	--	-17,925	-20,253	-20,472	-18,334	-20,806	-23,200	-21,419
Total	-208,333	-221,479	--	-16,776	-18,272	-18,860	-16,714	-19,526	-22,279	-20,472

-- = Not available. 1. Forecasts based on fiscal year (Oct. 1-Sep. 30). 2. Domestic exports including Department of Defense shipments (F.A.S. Value). 3. Imports for consumption (customs value). *Information contact: Mary Fant (202) 694-5272*

Table 26—Indexes of Real Trade-Weighted Dollar Exchange Rates[1]

	Annual			1997			1998			
	1995	1996	1997	Apr	Nov P	Dec P	Jan P	Feb P	Mar P	Apr P
					1990=100					
Total U.S. trade	96.2	100.8	111.9	111.9	111.9	114.5	116.9	116.3	116.7	116.8
Agricultural trade										
U.S. markets	97.3	101.0	109.9	110.2	112.8	117.1	119.6	118.2	117.7	118.0
U.S. competitors	97.4	98.7	109.1	107.3	110.7	114.0	118.2	117.4	118.0	117.7
High-valued products										
U.S. markets	95.2	100.4	108.2	109.4	110.7	113.4	114.6	113.2	113.0	113.8
U.S. competitors	98.3	100.1	110.9	109.6	111.5	114.2	117.0	116.9	117.6	117.5
Corn										
U.S. markets	89.1	96.4	107.1	107.7	111.5	116.4	118.7	116.5	116.4	117.5
U.S. competitors	88.8	90.1	97.4	96.8	97.8	99.6	101.5	101.3	101.8	101.8
Soybeans										
U.S. markets	91.1	96.0	107.9	107.4	111.0	115.8	119.6	118.0	117.9	117.6
U.S. competitors	81.3	80.8	82.2	81.7	83.3	83.7	84.3	84.2	84.4	85.3
Wheat										
U.S. markets	100.4	100.7	105.9	105.5	108.6	112.7	115.9	114.2	113.4	113.7
U.S. competitors	100.8	102.1	109.8	108.7	111.5	113.8	115.6	114.9	114.9	115.5
Vegetables										
U.S. markets	102.2	105.6	112.4	112.9	115.5	118.0	119.5	118.3	117.6	118.5
U.S. competitors	99.1	100.5	112.0	110.7	112.8	115.6	119.0	119.4	120.4	120.5
Red meats										
U.S. markets	84.8	93.3	100.4	102.2	103.5	107.8	109.0	107.1	107.7	108.7
U.S. competitors	96.3	98.0	107.9	106.5	108.9	111.7	114.1	113.6	114.0	114.1
Fruits & fruit juices										
U.S. markets	96.2	101.3	111.3	112.1	114.1	116.6	118.0	116.7	116.4	117.5
U.S. competitors	98.2	98.2	107.2	105.5	108.4	110.9	113.7	113.9	115.0	115.5
Cotton										
U.S. markets	93.6	95.5	105.7	103.2	111.5	124.3	137.0	132.4	131.8	128.3
U.S. competitors	104.6	101.6	103.2	102.5	103.5	105.1	106.6	106.0	106.2	107.2
Poultry										
U.S. markets	107.3	102.8	114.3	115.1	115.0	115.6	119.0	118.3	118.0	118.3
U.S. competitors	93.9	95.7	107.3	104.9	109.3	112.5	116.3	116.9	118.2	118.7

P = preliminary. 1. Real indexes adjust nominal exchange rates to avoid the distortion caused by different levels of inflation among countries. A higher value means the dollar has appreciated. "Total U.S. Trade" Index uses the Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major countries. Weights are based on relative importance of major U.S. customers and competitors in world markets during 1990-94. Indexes are subject to revision for up to one year due to delayed reporting by some countries. High-value products conform to FAS's definition for consumer-oriented agricultural products. Data are available at http://mann77.mannlib.cornell.edu/data-sets/international/88021/.

Information contact: Tim Baxter (202) 694-5318 or Andy Jerado (202) 694-5323

Table 27—U.S. Agricultural Exports & Imports

	Calendar Year			May		Calendar Year			May	
	1996	1997	1998 F	1997	1998	1996	1997	1998 F	1997	1998
	1,000 units					*$ million*				
EXPORTS										
Animals, live (no.)[1]	595	1,802	--	79	67	427	566	--	25	29
Meats and preps., excl. poultry (mt)[2]	1,849	1,924	1,400	147	175	4,590	4,597	4,000	382	388
Dairy products (mt)[1]	109	125	--	9	8	727	932	900	78	70
Poultry meats (mt)	2,388	2,585	2,600	217	252	2,483	2,423	--	208	212
Fats, oils, and greases (mt)	1,257	1,089	900	90	103	614	562	--	45	48
Hides and skins incl. furskins	--	--	--	--	--	1,675	1,651	1,500	149	109
Cattle hides, whole (no.)[1]	21,410	20,113	--	1,731	1,613	1,176	1,187	--	107	79
Mink pelts (no.)[1]	3,441	3,763	--	398	263	110	97	--	9	7
Grains and feeds (mt)[3]	106,131	91,061	--	6,203	6,496	20,863	15,361	15,300	1,122	1,034
Wheat (mt)[4]	30,946	25,264	28,000	1,261	1,845	6,265	4,095	4,400	221	269
Wheat flour (mt)	491	508	500	41	18	147	138	--	12	5
Rice (mt)	2,839	2,508	2,700	154	232	1,029	932	1,000	64	71
Feed grains, incl. products (mt)[5]	58,687	49,032	47,900	3,596	3,337	9,575	6,211	5,600	482	388
Feeds and fodders (mt)	11,842	12,352	12,700	1,004	943	2,646	2,669	2,600	226	190
Other grain products (mt)	1,325	1,397	--	147	120	1,200	1,316	--	118	112
Fruits, nuts, and preps. (mt)	3,689	3,896	--	327	283	4,282	4,235	4,500	348	309
Fruit juices incl. froz. (1,000 hectoliters)[1]	9,719	10,689	--	1,257	900	634	662	--	67	56
Vegetables and preps. (mt)	3,142	3,402	--	338	351	3,822	4,152	2,800	367	383
Tobacco, unmanufactured (mt)	222	222	--	32	20	1,390	1,553	1,600	226	149
Cotton, excl. linters (mt)[6]	1,497	1,568	1,600	137	104	2,715	2,682	2,700	230	160
Seeds (mt)	895	1,098	--	104	84	795	884	900	55	48
Sugar, cane or beet (mt)[1]	244	125	--	10	8	95	54	--	4	3
Oilseeds and products (mt)	34,213	36,665	36,700	1,720	1,626	10,792	12,057	11,200	634	512
Oilseeds (mt)	26,181	26,764	--	1,187	832	7,875	8,326	--	420	245
Soybeans (mt)	25,566	26,023	25,900	1,111	754	7,324	7,379	6,700	361	194
Protein meal (mt)	6,131	7,311	--	386	598	1,542	1,966	--	106	117
Vegetable oils (mt)	1,901	2,590	--	147	196	1,375	1,766	--	109	149
Essential oils (mt)	44	45	--	4	4	593	588	--	50	49
Other	132	173	--	0	0	3,948	4,287	--	375	370
Total	155,812	143,978	149,200	0	0	60,445	57,245	56,000	4,366	3,928
IMPORTS										
Animals, live (no.)[1]	4,871	5,331	--	440	547	1,545	1,594	1,600	128	149
Meats and preps., excl. poultry (mt)	1,039	1,154	1,200	95	106	2,295	2,630	2,800	209	234
Beef and veal (mt)	708	797	--	64	76	1,341	1,609	--	122	160
Pork (mt)	252	261	--	22	21	728	754	--	64	50
Dairy products (mt)[1]	347	354	--	31	31	1,274	1,225	1,400	80	93
Poultry and products[1]	--	--	--	--	--	181	195	--	17	17
Fats, oils, and greases (mt)	59	80	--	6	6	49	60	--	4	4
Hides and skins, incl. furskins (mt)	--	--	--	--	--	205	206	--	32	25
Wool, unmanufactured (mt)	44	44	--	6	5	152	154	--	20	19
Grains and feeds (mt)	6,784	8,342	8,700	612	543	2,657	2,963	3,200	213	216
Fruits, nuts, and preps., excl. juices (mt)[7]	6,962	7,252	7,500	611	623	3,640	3,837	5,100	349	328
Bananas and plantains (mt)	4,001	3,998	4,000	312	337	1,184	1,220	1,300	96	94
Fruit juices (1,000 hectoliters)[1]	28,002	27,807	30,000	2,506	2,461	913	829	--	77	62
Vegetables and preps. (mt)	4,071	4,218	4,800	457	488	3,526	3,707	4,000	364	449
Tobacco, unmanufactured (mt)	302	294	400	40	30	923	1,089	1,400	165	118
Cotton, unmanufactured (mt)	189	17	--	1	1	300	20	--	1	1
Seeds (mt)	199	224	--	14	14	310	371	--	27	29
Nursery stock and cut flowers[1]	--	--	--	--	--	952	1,004	1,200	77	105
Sugar, cane or beet (mt)	2,891	2,913	--	351	136	1,087	984	--	105	48
Oilseeds and products (mt)	3,419	3,963	3,600	296	407	2,147	2,242	2,100	183	198
Oilseeds (mt)	776	1,035	--	70	90	330	384	--	28	32
Protein meal (mt)	1,001	1,048	--	73	108	179	188	--	14	17
Vegetable oils (mt)	1,643	1,880	--	153	209	1,637	1,670	--	141	149
Beverages excl. fruit juices (1,000 hectoliters)[1]	20,138	23,792	--	1,387	1,595	2,903	3,375	--	189	216
Coffee, tea, cocoa, spices (mt)	2,256	2,265	--	205	221	4,797	6,048	--	429	583
Coffee, incl. products (mt)	1,123	1,180	1,200	99	109	2,788	3,886	3,400	234	355
Cocoa beans and products (mt)	821	767	800	80	86	1,400	1,471	1,600	140	170
Rubber and allied gums (mt)	1,034	1,068	1,100	96	106	1,468	1,229	1,300	122	97
Other	--	--	--	--	--	2,321	2,528	--	187	207
Total	--	--	--	--	--	33,643	36,289	38,000	2,979	3,197

F = Forecast. -- = Not available. 1997 data are from *Foreign Agricultural Trade of the U.S.* 1998 forecasts are from *Outlook for U.S. Agricultural Exports.* Fiscal years begin October 1 and end September 30. 1. Not included in total volume. 2. Forecast includes only beef, pork, and variety meat. 3. Forecast includes pulses. 4. Forecast includes wheat flour. 5. Forecast excludes grain products. 6. Forecast includes linters. 7. Forecast includes juice.
Note: Totals include transshipments through Canada,but transshipments are not distributed by commodity as previously.
Note: Unadjusted transshipments through Canada for 1997 exports. *Information contact: Mary Fant (202) 694-5272*

Table 28—U.S. Agricultural Exports by Region

	Calendar year			May		Change from year earlier			May	
	1996	1997	1998F	1997	1998	1996	1997	1998F	1997	1998
	$ million					Percent				
Region & country										
WESTERN EUROPE	9,702	9,540	9,500	567	547	7	-2	--	-14	-4
European Union[1]	9,322	8,918	8,800	529	525	7	-4	--	-17	-1
Belgium-Luxembourg	749	668	--	37	51	14	-11	--	-40	36
France	524	570	--	37	30	-2	9	--	-2	-20
Germany	1,489	1,319	--	86	92	20	-11	--	-2	7
Italy	796	756	--	36	43	13	-5	--	-41	20
Netherlands	2,218	1,928	--	100	83	1	-13	--	-26	-17
United Kingdom	1,233	1,312	--	90	103	15	6	--	0	14
Portugal	291	249	--	28	9	7	-14	--	104	-68
Spain incl. Canary Islands	1,124	1,140	--	46	47	-9	1	--	-45	1
Other Western Europe	380	622	700	38	23	10	64	--	72	-41
Switzerland	211	517	--	26	14	0	144	--	96	-47
EASTERN EUROPE	439	282	300	18	22	44	-36	--	-62	23
Poland	232	121	--	9	9	96	-48	--	-75	7
Former Yugoslavia	88	96	--	5	4	12	9	--	-39	-16
Romania	57	16	--	0	4	-7	-72	--	47	639
NEWLY INDEPENDENT STATES	1,747	1,483	1,200	112	144	31	-15	--	-15	29
Russia	1,328	1,204	1,000	101	112	29	-9	--	-6	11
ASIA[2]	28,560	25,624	21,500	2,113	1,588	1	-10	--	-11	-25
West Asia (Mideast)	2,513	2,553	2,500	206	161	1	2	--	30	-22
Turkey	637	727	--	66	63	19	14	--	47	-5
Iraq	3	82	--	4	0	31	2,913	--	100	-100
Israel, incl. Gaza and W. Bank	617	537	500	49	34	28	-13	--	-4	-31
Saudi Arabia	551	618	600	61	33	6	12	--	245	-46
South Asia	653	760	800	40	35	-36	16	--	36	-11
Bangladesh	88	120	--	5	6	-60	37	--	32	8
India	113	155	--	13	11	-42	38	--	20	-19
Pakistan	352	442	500	21	5	-22	26	--	1,857	-77
China	2,092	1,600	1,600	118	45	-21	-24	--	14	-61
Japan	11,704	10,532	10,300	1,020	753	5	-10	--	-11	-26
Southeast Asia	3,270	2,988	2,300	177	147	7	-9	--	-23	-17
Indonesia	852	772	--	58	14	4	-9	--	3	-76
Philippines	892	873	800	43	66	16	-2	--	-48	52
Other East Asia	8,327	7,191	6,500	553	446	6	-14	--	-23	-19
Korea, Rep.	3,871	2,857	2,400	223	203	3	-26	--	-28	-9
Hong Kong	1,490	1,712	1,700	137	125	-1	15	--	5	-8
Taiwan	2,965	2,616	2,400	193	118	14	-12	--	-30	-39
AFRICA	2,877	2,267	2,300	123	104	-3	-21	--	-30	-15
North Africa	1,986	1,559	1,500	60	67	-4	-21	--	-33	12
Morocco	244	163	--	1	4	49	-33	--	-90	483
Algeria	322	315	300	21	13	-25	-2	--	-13	-38
Egypt	1,319	964	900	36	43	-4	-27	--	-36	20
Sub-Sahara	891	707	800	64	38	-3	-21	--	-27	-41
Nigeria	190	115	--	7	11	51	-39	--	-70	65
Rep. S. Africa	309	220	--	15	7	10	-29	--	-35	-49
LATIN AMERICA and CARIBBEAN	10,486	10,363	10,800	795	842	30	-1	--	-8	6
Brazil	588	536	500	41	24	10	-9	--	96	-42
Caribbean Islands	1,419	1,501	--	125	104	10	6	--	0	-16
Central America	1,006	1,047	--	94	97	15	4	--	5	4
Colombia	631	538	--	34	49	33	-15	--	-10	43
Mexico	5,447	5,184	5,800	403	477	54	-5	--	-16	18
Peru	310	193	--	8	15	3	-38	--	-49	94
Venezuela	483	571	600	46	35	-1	18	--	-25	-25
CANADA	6,146	6,795	6,900	597	627	6	11	--	13	5
OCEANIA	489	550	600	34	46	-4	13	--	7	36
TOTAL	60,445	57,245	56,000	4,366	3,928	7	-5	--	-10	-10
Developed countries	28,890	28,431	--	2,281	2,015	6	-2	--	-6	-12
Developing countries	27,681	25,687	--	1,851	1,722	10	-7	--	-14	-7
Other countries	3,873	3,128	--	235	191	-3	-19	--	-1	-18

-- = Not available. F= forecast. 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 transhipments through Canada, but transhipments are not distributed as previously. *Information contact: Mary Fant (202) 694-5272*

Farm Income

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

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
					$ billion					
Final crop output	81.5	83.3	81.0	89.0	82.3	100.3	95.8	115.6	112.1	105.7
Food grains	8.2	7.5	7.3	8.5	8.2	9.5	10.4	10.7	10.6	9.1
Feed crops	17.0	18.7	19.3	20.1	20.2	20.3	24.6	27.2	27.6	24.4
Cotton	5.0	5.5	5.2	5.2	5.2	6.7	6.9	7.0	6.5	6.0
Oil crops	11.9	12.3	12.7	13.3	13.2	14.7	15.5	16.4	19.9	17.9
Tobacco	2.4	2.7	2.9	3.0	2.9	2.7	2.5	2.8	2.9	3.1
Fruits and tree nuts	9.2	9.4	9.9	10.2	10.3	10.3	11.1	11.9	12.5	12.6
Vegetables	11.6	11.5	11.6	11.9	13.4	13.9	14.9	14.6	15.1	16.2
All other crops	11.6	12.8	13.1	13.7	14.0	14.9	15.2	15.9	16.7	16.5
Home consumption	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Value of inventory adjustment[1]	4.5	2.8	(1.2)	3.2	(5.3)	7.2	(5.4)	8.9	0.3	(0.2)
Final animal output	83.8	90.2	87.3	87.1	91.7	89.7	87.6	92.2	96.2	94.3
Meat animals	46.7	51.2	50.1	47.7	50.8	46.8	44.8	44.4	49.9	46.9
Dairy products	19.4	20.2	18.0	19.7	19.2	19.9	19.9	22.8	21.0	22.4
Poultry and eggs	15.4	15.3	15.2	15.5	17.3	18.4	19.1	22.3	22.2	22.1
Miscellaneous livestock	2.5	2.5	2.5	2.6	2.8	3.0	3.2	3.4	3.5	3.5
Home consumption	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.4
Value of inventory adjustment[1]	(0.7)	0.4	1.0	1.0	1.1	1.1	0.2	(1.1)	(0.7)	(0.9)
Services and forestry	15.8	15.3	15.4	15.2	16.6	17.9	19.4	20.7	22.1	22.5
Machine hire and customwork	1.7	1.8	1.8	1.8	1.9	2.1	1.9	2.2	2.6	2.6
Forest products sold	2.0	1.8	1.8	2.2	2.6	2.7	2.9	2.8	2.9	2.6
Other farm income	4.9	4.5	4.7	4.2	4.6	4.4	5.2	5.9	6.3	6.3
Gross imputed rental value of farm dwellings	7.2	7.2	7.2	7.0	7.6	8.7	9.3	9.8	10.3	11.0
Final agricultural sector output[2]	181.0	188.7	183.7	191.3	190.6	207.9	202.8	228.4	230.4	222.6
Minus Intermediate consumption outlays	88.7	92.9	94.6	93.5	100.6	104.9	109.0	112.8	118.6	117.0
Farm origin	38.1	39.5	38.6	38.6	41.2	41.3	41.6	42.7	45.7	44.1
Feed purchased	20.7	20.4	19.3	20.1	21.4	22.6	23.8	25.2	25.2	24.5
Livestock and poultry purchased	12.9	14.6	14.1	13.6	14.6	13.3	12.3	11.2	13.8	13.0
Seed purchased	4.4	4.5	5.1	4.9	5.2	5.4	5.5	6.2	6.7	6.6
Manufactured inputs	20.6	22.0	23.2	22.7	23.1	24.4	26.2	28.7	29.0	28.9
Fertilizers and lime	8.2	8.2	8.7	8.3	8.4	9.2	10.0	10.9	10.9	11.0
Pesticides	5.0	5.4	6.3	6.5	6.7	7.2	7.7	8.5	8.8	8.8
Petroleum fuel and oils	4.8	5.8	5.6	5.3	5.3	5.3	5.4	6.0	6.2	6.2
Electricity	2.6	2.6	2.6	2.6	2.7	2.7	3.0	3.2	3.0	2.9
Other intermediate expenses	30.0	31.4	32.8	32.2	36.2	39.2	41.2	41.5	43.9	44.0
Repair and maintenance of capital items	8.4	8.6	8.6	8.5	9.2	9.1	9.5	10.3	10.4	10.6
Machine hire and customwork	3.4	3.6	3.5	3.8	4.4	4.8	4.8	4.7	4.9	4.9
Marketing, storage, and transportation	4.2	4.2	4.7	4.5	5.6	6.8	7.2	6.8	7.0	7.1
Contract labor	1.3	1.6	1.6	1.7	1.8	1.8	2.0	2.1	2.6	2.7
Miscellaneous expenses	12.7	13.5	14.3	13.7	15.2	16.7	17.8	17.6	19.0	18.8
Plus Net government transactions	5.1	3.1	2.1	2.7	6.9	1.0	0.1	0.1	0.1	(0.1)
+ Direct government payments	10.9	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	7.4
- Motor vehicle registration and licensing fees	0.3	0.4	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.4
- Property taxes	5.5	5.9	5.8	6.1	6.2	6.5	6.7	6.8	7.0	7.0
Gross value added	97.4	98.9	91.2	100.5	96.9	104.0	93.9	115.7	111.9	105.5
Minus Capital consumption	18.1	18.1	18.2	18.3	18.3	18.6	19.0	19.2	19.4	19.6
Net value added	79.3	80.8	73.0	82.1	78.5	85.4	74.9	96.5	92.5	85.8
Minus Factor payments	34.0	36.0	34.4	34.6	35.1	37.0	38.9	42.9	42.6	43.3
Employee compensation (total hired labor)	10.7	12.5	12.3	12.3	13.2	13.5	14.3	15.4	16.0	16.7
Net rent received by nonoperator landlords	9.4	10.0	9.9	11.2	11.0	11.8	11.8	14.3	13.3	13.0
Real estate and nonreal estate interest	13.9	13.4	12.1	11.1	10.8	11.7	12.7	13.2	13.3	13.6
Net farm income	45.3	44.7	38.7	47.5	43.5	48.3	36.1	53.5	49.9	42.5

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 the 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 (202)694-5592 or rogers@econ.ag.gov*

Table 30—Farm Income Statistics

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
					$ billion					
Cash Income statement:										
1. Cash receipts	160.8	169.5	167.9	171.4	177.7	181.2	188.1	199.6	208.3	200.6
Crops[1]	76.9	80.3	82.1	85.7	87.5	93.1	101.0	106.6	111.7	105.8
Livestock	83.9	89.2	85.8	85.6	90.2	88.2	87.0	93.0	96.6	94.8
2. Direct Government payments	10.9	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	7.4
3. Farm-related income[2]	8.6	8.1	8.3	8.2	9.0	9.2	10.1	10.9	11.8	11.5
4. Gross cash income (1+2+3)	180.3	186.9	184.3	188.7	200.1	198.3	205.4	217.8	227.6	219.5
5. Cash expenses[3]	127.5	134.1	134.0	133.6	141.2	147.6	153.6	161.4	166.9	166.2
6. Net cash income (4-5)	52.8	52.9	50.4	55.1	58.8	50.7	51.8	56.4	60.7	53.4
Farm income statement:										
7. Gross cash income (4)	180.3	187.0	184.3	188.7	200.1	198.3	205.4	217.8	227.6	219.5
8. Noncash income[4]	7.9	7.9	7.8	7.6	8.1	9.2	9.8	10.2	10.7	11.4
9. Value of inventory adjustment	3.8	3.3	-0.2	4.2	-4.2	8.3	-5.1	7.8	-0.4	-1.0
10. Gross farm income (7+8+9)	191.9	198.0	191.9	200.5	204.0	215.8	210.1	235.8	237.9	230.0
11. Total production expenses	146.7	153.3	153.3	152.9	160.5	167.4	174.0	182.3	188.0	187.4
12. Net farm income (10-11)	45.3	44.7	38.7	47.5	43.5	48.3	36.1	53.5	49.9	42.5

Values for last 2 years are preliminary or forecasts. 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.
Information contact: Roger Strickland (202) 694-5582, e-mail: rogers@econ.ag.gov

Table 31—Average Income to Farm Operator Households[1]

				$ per farm				
Net cash farm business income[2]	10,678	11,320	11,248	11,389	11,218	13,502	--	--
Less depreciation[3]	5,127	5,187	6,219	6,466	6,795	6,906	--	--
Less wages paid to operator[4]	441	216	454	425	522	531	--	--
Less farmland rental income[5]	323	360	534	701	769	672	--	--
Less adjusted farm business income due to other household(s)[6]	1,093	961	872	815	649	1,094	--	--
				$ per farm operator household				
Equals adjusted farm business income	3,694	4,596	3,168	2,981	2,484	4,300	--	--
Plus wages paid to operator	441	216	454	425	522	531	--	--
Plus net income from farmland rental[7]	323	360	--	--	1,053	1,178	--	--
Equals farm self-employment income	4,458	5,172	3,623	3,407	4,059	6,009	--	--
Plus other farm-related earnings[8]	1,352	2,008	1,192	970	661	1,898	--	--
Equals earnings of the operator household from farming activities	5,810	7,180	4,815	4,376	4,720	7,906	6,070	4,637
Plus earnings of the operator household from off-farm sources[9]	31,638	35,731	35,408	38,092	39,671	42,455	43,572	45,060
Equals average farm operator household income	37,447	42,911	40,223	42,469	44,392	50,361	49,641	49,696
				$ per U.S. household				
U.S. average household income[10]	37,922	38,840	41,428	43,133	44,938	47,123	--	--
				Percent				
Average farm operator household income as percent of U.S. average household income	98.7	110.5	97.1	98.5	98.8	106.9	--	--
Average operator household earnings from farming activities as percent of average operator household income	15.5	16.7	12.0	10.3	10.6	15.7	--	--

-- = Not available. Values in the last three years 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 rented 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, 1991, 1992, 1993, 1994, and 1995 Farm Costs and Returns Survey (FCRS), and 1996 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 e-mail rhoppe@econ.ag.gov*

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

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	$ billion									
Farm assets	794.0	819.7	822.1	873.8	910.7	943.0	985.4	$1,034.9	$1,083.0	$1,131.5
Real estate	604.3	623.3	628.9	646.3	678.3	712.4	761.3	805.4	852.9	895.6
Livestock and poultry [1]	66.2	70.9	68.1	71.0	72.8	67.9	57.8	60.1	58.5	59.0
Machinery and motor vehicles	84.1	86.3	85.9	85.3	85.9	86.7	86.7	85.5	90.0	92.7
Crops stored [2,3]	23.7	23.0	22.2	24.2	23.3	23.1	27.2	30.6	28.0	29.0
Purchased inputs	2.6	2.8	2.6	3.9	3.8	5.0	3.4	4.4	4.7	4.5
Financial assets	36.8	38.3	40.5	43.0	46.5	47.9	49.0	48.9	49.0	50.5
Total farm debt	138.1	138.1	139.4	139.3	142.2	147.1	151.0	156.2	162.2	167.6
Real estate debt [3]	76.2	74.9	75.1	75.6	76.3	78.0	79.6	81.9	84.1	85.5
Non-real estate debt [4]	61.9	63.2	64.3	63.6	65.9	69.1	71.5	74.2	78.1	81.2
Total farm equity	656.0	681.5	682.7	734.5	768.5	795.9	834.3	878.7	920.8	963.8
	Percent									
Selected ratios										
Debt to assets	17.4	16.9	17.0	15.9	15.6	15.6	15.3	15.1	15.0	14.8
Debt to equity	21.0	20.3	20.4	19.0	18.5	18.5	18.1	17.8	17.6	17.4

Values in the last two columns are forecasts. 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 e-mail erickson@econ.ag.gov*

Table 33—Cash Receipts from Farming

	Annual			1997			1998			
	1995	1996	1997	Apr	Nov	Dec	Jan	Feb	Mar	Apr
	$ million									
Commodity sales*	188,068	199,565	208,275	14,758	21,008	19,015	19,439	13,923	15,582	14,303
Livestock and products	87,020	92,998	96,550	7,859	7,705	7,954	7,972	7,274	8,632	7,423
Meat animals	44,827	44,414	49,925	4,091	3,654	4,101	3,984	3,808	4,748	3,508
Dairy products	19,894	22,820	20,989	1,796	1,822	1,930	1,962	1,810	1,989	1,913
Poultry and eggs	19,070	22,345	22,183	1,752	1,809	1,694	1,757	1,434	1,655	1,781
Other	3,228	3,418	3,453	220	420	229	268	222	240	222
Crops	101,048	106,566	111,724	6,899	13,303	11,062	11,467	6,649	6,950	6,880
Food grains	10,417	10,741	10,603	626	659	840	853	521	531	376
Feed crops	24,581	27,265	27,638	1,477	3,442	2,624	3,730	1,914	1,772	1,249
Cotton (lint and seed)	6,851	6,983	6,515	177	1,497	1,216	1,132	495	284	302
Tobacco	2,548	2,796	2,886	0	290	782	418	120	43	61
Oil-bearing crops	15,496	16,362	19,911	1,141	2,374	1,664	2,676	1,245	1,214	880
Vegetables and melons	14,871	14,559	15,067	1,065	870	873	1,052	849	1,219	1,414
Fruits and tree nuts	11,119	11,928	12,451	674	1,833	1,334	596	523	474	773
Other	15,165	15,934	16,654	1,738	2,338	1,728	1,009	983	1,414	1,825
Government payments	7,279	7,340	7,496	28	34	743	1,828	93	52	75
Total	195,347	206,904	215,771	14,786	21,042	19,758	21,267	14,016	15,634	14,378

Annual values for the most recent year and monthly values for the current year are preliminary. *Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. *Information contact: Roger Strickland (202) 694-5592. To receive current monthly cash receipts, contact Larry Traub at (202)694-5593 or ltraub@econ.ag.gov.*

Table 34—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops[1]				Total[1]			
	1996	1997	Mar 1998	Apr 1998	1996	1997	Mar 1998	Apr 1998	1996	1997	Mar 1998	Apr 1998
						$ million						
NORTH ATLANTIC												
Maine	262	259	21	18	220	228	26	28	482	487	47	46
New Hampshire	72	69	6	6	97	97	8	9	169	166	14	15
Vermont	433	416	39	38	99	96	8	12	532	512	47	49
Massachusetts	110	102	9	9	392	430	15	18	502	531	24	27
Rhode Island	11	9	1	1	73	74	6	8	84	83	7	9
Connecticut	236	218	18	15	253	278	18	23	489	496	36	39
New York	2,050	1,859	169	160	981	1,036	86	76	3,031	2,895	254	236
New Jersey	196	180	15	15	607	596	32	45	803	776	47	60
Pennsylvania	2,865	2,789	253	246	1,283	1,331	109	108	4,148	4,120	362	354
NORTH CENTRAL												
Ohio	1,943	1,869	163	146	2,853	3,481	239	217	4,796	5,350	402	363
Indiana	1,913	1,896	143	124	3,620	3,611	227	175	5,533	5,508	369	299
Illinois	2,063	1,937	161	118	6,453	7,341	583	350	8,516	9,278	744	468
Michigan	1,450	1,352	141	117	2,154	2,219	130	154	3,604	3,571	270	271
Wisconsin	4,299	4,070	385	334	1,732	1,684	107	100	6,030	5,755	492	434
Minnesota	4,147	4,054	367	293	4,654	4,101	213	204	8,800	8,155	580	497
Iowa	5,451	5,530	442	420	6,698	7,311	552	417	12,148	12,841	994	836
Missouri	2,463	2,795	169	165	2,409	2,768	181	107	4,872	5,563	351	273
North Dakota	539	611	79	52	2,891	2,702	142	125	3,429	3,313	221	176
South Dakota	1,634	1,820	213	133	1,875	2,417	125	104	3,509	4,237	338	237
Nebraska	5,277	5,542	454	360	3,933	4,550	313	211	9,211	10,092	767	571
Kansas	4,541	5,017	399	370	2,978	3,985	206	100	7,519	9,002	606	471
SOUTHERN												
Delaware	573	573	45	53	180	174	6	8	753	748	51	61
Maryland	901	915	74	85	637	622	44	52	1,538	1,537	118	137
Virginia	1,477	1,538	142	126	907	869	34	34	2,384	2,406	175	160
West Virginia	309	323	27	28	79	70	4	2	388	393	31	30
North Carolina	4,431	4,694	329	337	3,466	3,615	166	198	7,897	8,309	495	535
South Carolina	748	796	61	63	869	895	43	43	1,616	1,691	104	106
Georgia	3,279	3,442	277	277	2,452	2,438	108	131	5,731	5,879	385	408
Florida	1,199	1,249	114	94	5,037	4,977	446	714	6,236	6,226	560	808
Kentucky	1,727	1,978	166	116	1,842	1,655	79	90	3,569	3,633	245	206
Tennessee	999	1,005	126	90	1,406	1,287	53	54	2,405	2,292	180	144
Alabama	2,362	2,431	206	200	808	792	35	45	3,170	3,223	241	246
Mississippi	1,934	2,006	157	163	1,504	1,470	75	55	3,438	3,476	232	219
Arkansas	3,374	3,416	272	286	2,470	2,446	103	81	5,844	5,862	375	367
Louisiana	688	659	75	63	1,641	1,482	64	39	2,328	2,141	139	102
Oklahoma	2,414	3,061	430	248	1,105	1,300	54	59	3,519	4,361	484	307
Texas	7,821	8,184	747	645	5,139	5,287	271	264	12,960	13,471	1,018	909
WESTERN												
Montana	797	991	108	70	1,203	1,072	80	70	1,999	2,063	188	139
Idaho	1,330	1,389	154	116	2,043	1,935	100	113	3,372	3,323	254	229
Wyoming	478	646	53	46	189	199	7	4	667	845	60	50
Colorado	2,763	3,012	299	206	1,362	1,387	91	80	4,125	4,399	390	286
New Mexico	1,198	1,354	201	116	506	565	24	24	1,704	1,919	225	140
Arizona	840	888	71	68	1,306	1,271	180	115	2,145	2,159	251	183
Utah	644	715	57	57	228	237	16	21	872	952	73	77
Nevada	154	180	16	15	132	130	11	10	287	310	27	26
Washington	1,665	1,604	145	135	3,833	3,841	235	216	5,497	5,445	380	351
Oregon	658	739	87	59	2,246	2,342	115	119	2,904	3,081	202	178
California	6,212	6,294	539	512	17,281	18,591	1,143	1,617	23,492	24,885	1,682	2,129
Alaska	6	6	2	2	23	26	2	2	29	32	4	4
Hawaii	66	68	6	6	420	415	34	33	487	483	40	38
U.S.	92,998	96,550	8,632	7,423	106,566	111,724	6,950	6,880	199,565	208,275	15,582	14,303

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: Roger Strickland (202) 694-5592. To receive current monthly cash receipts, contact Larry Traub at (202) 694-5593 or ltraub@econ.ag.gov*

Table 35—CCC Net Outlays by Commodity & Function

	Fiscal year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998 E	1999 E
	$ million									
COMMODITY/PROGRAM										
Feed grains:										
Corn	2,435	2,387	2,105	5,143	625	2,090	2,021	2,587	2,649	2,604
Grain sorghum	349	243	190	410	130	153	261	284	285	280
Barley	-94	71	174	186	202	129	114	109	152	114
Oats	-5	12	32	16	5	19	8	8	9	8
Corn and oat products	8	9	9	10	10	1	0	0	0	0
Total feed grains	2,693	2,722	2,510	5,765	972	2,392	2,404	2,988	3,095	3,006
Wheat and products	796	2,805	1,719	2,185	1,729	803	1,491	1,332	1,587	1,486
Rice	667	867	715	887	836	814	499	459	515	471
Upland cotton	-79	382	1,443	2,239	1,539	99	685	561	1,065	957
Tobacco	-307	-143	29	235	693	-298	-496	-156	286	-49
Dairy	505	839	232	253	158	4	-98	67	224	113
Soybeans	5	40	-29	109	-183	77	-65	5	11	222
Peanuts	1	48	41	-13	37	120	100	6	0	-1
Sugar	15	-20	-19	-35	-24	-3	-63	-34	-39	-39
Honey	47	19	17	22	0	-9	-14	-2	0	0
Wool	104	172	191	179	211	108	55	0	0	0
Operating expense[1]	618	625	6	6	6	6	6	6	5	6
Interest expenditure	632	745	532	129	-17	-1	140	-111	-109	-42
Export programs[2]	-34	733	1,459	2,193	1,950	1,361	-422	125	329	530
Disaster/tree/ livestock assistance	161[3]	121	1,054	944	2,566	660	95	130	25	5
Conservation reserve program	0	0	0	0	0	0	2	1,671	1,829	1,639
Other conservation programs	0	0	0	0	0	0	7	105	291	340
Other	647	155	-162	949	-137	-103	320	104	209	426
Total	6,471	10,110	9,738	16,047	10,336	6,030	4,646	7,256	9,323	9,070
Function										
Price support loans (net)	-399	418	584	2,065	527	-119	-951	110	444	115
Cash direct payments:[4]										
Production flexibility contract	0	0	0	0	0	0	5,141	6,320	5,716	5,512
Deficiency	4,178	6,224	5,491	8,607	4,391	4,008	567	-1,118	-11	0
Diversion	0	0	0	0	0	0	0	0	0	0
Dairy termination	189	96	2	0	0	0	0	0	0	0
Loan Deficiency	3	21	214	387	495	29	0	0	6	103
Other	0	0	140	149	171	97	95	7	360	335
Disaster	0	0	0	0	0	0	0	0	0	0
Conservation reserve program	0	0	0	0	0	0	2	1,671	1,829	1,639
Other conservation programs	0	0	0	0	0	0	0	85	238	298
Non-Insured Assistance (NAP)	0	0	0	0	0	0	2	52	54	77
Total direct payments	4,370	6,341	5,847	9,143	5,057	4,134	5,807	7,017	8,192	7,964
1988-94 crop disaster	5[3]	6	960	872	2,461	584	14	2	0	0
Emergency livestock/tree/DRAP livestock indemn/forage assist.	156	115	94	72	105	76	81	128	25	5
Purchases (net)	-48	646	321	525	293	-51	-249	-60	145	72
Producer storage payments	185	1	14	9	12	23	0	0	0	0
Processing, storage, and transportation	278	240	185	136	112	72	51	33	32	30
Operating expense[1]	618	625	6	6	6	6	6	6	5	6
Interest expenditure	632	745	532	129	-17	-1	140	-111	-109	-42
Export programs[2]	-34	733	1,459	2,193	1,950	1,361	-422	125	329	530
Other	708	240	-264	897	-170	-55	169	6	260	390
Total	6,471	10,110	9,738	16,047	10,336	6,030	4,646	7,256	9,323	9,070

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, and Technical Assistance to Emerging Markets. 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 the FY 1999 Mid-Session Review Budget which was released on May 26, 1998 based on April 1998 supply and demand estimates. The CCC outlays shown for 1996-1999 include the impact of the Federal Agricultural Improvement and Reform Act of 1996, which was enacted April 4, 1996. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds). *Information contact: Richard Pazdalski Farm Sevice Agency - Budget at (202) 720-3675 or Richard_Pazdalski@wdc.fsa.usda.gov.*

Food Expenditures

Table 36—Food Expenditures

	Annual			1998			Year-to-date cumulative		
	1995	1996	1997 P	Apr P	May P	Jun P	Apr P	May P	Jun P
					$ billion				
Sales[1]									
At home[2]	354.2	367.6	380.2	32.8	30.2	29.1	119.5	152.9	184.2
Away from home[3]	280.8	288.5	297.9	25.1	28.4	27.0	95.3	123.7	150.7
					1995 $ billion				
Sales[1]									
At home[2]	367.3	367.4	371.0	31.6	29.0	27.9	119.6	148.6	176.5
Away from home[3]	287.7	288.5	289.7	24.0	27.0	25.6	91.1	118.1	143.8
					Percent change from year earlier ($ billion)				
Sales[1]									
At home[2]	3.8	3.8	3.4	9.4	-9.5	-7.2	4.0	1.1	-0.3
Away from home[3]	4.5	2.7	3.0	2.1	7.7	6.3	0.5	2.0	2.8
					Percent change from year earlier (1995 $ billion)				
Sales[1]									
At home[2]	0.5	0.1	1.0	7.5	-11.3	-9.0	2.3	-0.7	-2.1
Away from home[3]	2.2	0.3	0.2	-0.4	4.8	3.6	-2.0	-0.6	0.2

R = Revised. P = Preliminary. 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) 694-5373
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 entertainmen
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			1997		1998				
	1995	1996	1997 R	May	Dec	Jan R	Feb R	Mar P	Apr P	May P
Rail freight rate index[1]										
(Dec. 1984=100)										
All products	111.7	111.5	112.1	111.7	112.6	113.5	113.5	113.6	114.0	114.0
Farm products	115.6	115.9	120.3	120.0	124.4	124.7	124.7	124.7	124.7	124.7
Grain[2]	117.1	118.0	--	--	--	--	--	--	--	--
Food products	111.7	108.8	107.6	106.9	108.5	108.5	108.0	108.7	108.7	108.7
Barge freight rate index[1]										
(Dec 1990=100)										
Grain	172.6	129.5	107.1	82.5	105.0	95.8	102.8	90.9	93.0	86.9
Grain shipments										
Rail carloadings (1,000 cars)[3]	28.9	25.2	23.2	20.1	23.0	23.9	24.6	21.7	20.4	20.4
Barge shipments (mil. ton)[4,5]	3.5	3.1	2.4	3.4	--	2.0	1.7	--	--	--
Fresh fruit and vegetable shipments[6]										
Piggy back (mil. cwt)	1.3	1.1	1.1	1.8	0.8	1.0	0.9	0.9	0.9	1.3
Rail (mil. cwt)	1.9	1.6	1.7	2.2	1.7	1.5	1.0	1.1	1.2	1.1
Truck (mil. cwt)	40.5	35.7	42.6	57.5	39.0	38.8	34.2	39.9	44.5	50.3
Cost of operating trucks										
hauling produce[6]										
Fleet operation (cents/mile)	130.3	123.0	135.4	134.7	--	--	--	--	--	--

P= Preliminary. R = Revised. -- = Not available. 1. Department of Labor, Bureau of Labor Statistics. 2. Discontinued. 3. Weekly average; from Association of American Railroads. 4. Shipments on Illinois and Mississippi waterways, U.S. Corps of Engineers. 5. Annual 1996 is 7-month average. 6. Agricultural Marketing Service, USDA. *Information contact: Jenny Gonzales (202) 694-5296*

Indicators of Farm Productivity

Table 38—Indexes of Farm Production, Input Use, & Productivity[1]

	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[1]	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[2]	87	81	86	92	89	100	98	111	110	106
Nonfarm[3]	95	95	96	96	97	100	100	101	--	--

Values for latest year preliminary. 1. Includes miscellaneous items not shown seperately. 2. Economic Research Service. 3. Bureau of Labor Statistics.
Information contact: John Jones (202) 694-5614

Food Supply & Use

Table 39—Per Capita Consumption of Major Food Commodities[1]

Commodity	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
					Lbs.					
Red meats[2,3,4]	117.4	119.5	115.9	112.3	111.9	114.1	112.2	114.8	115.1	112.8
Beef	69.6	68.6	65.4	63.9	63.1	62.8	61.5	63.6	64.4	65.0
Veal	1.3	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	1.0
Lamb & mutton	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
Pork	45.6	48.8	48.4	46.4	46.9	49.5	48.9	49.6	49.0	46.0
Poultry[2,3,4]	51.0	51.9	53.9	56.3	58.3	60.8	62.5	63.3	62.9	64.4
Chicken	39.4	39.6	40.9	42.4	44.2	46.7	48.5	49.3	48.8	49.8
Turkey	11.6	12.4	13.1	13.8	14.1	14.1	14.0	14.1	14.1	14.6
Fish and shellfish[3]	16.1	15.1	15.6	15.0	14.8	14.7	14.9	15.1	14.9	14.7
Eggs[4]	32.7	31.8	30.5	30.2	30.1	30.3	30.4	30.6	30.2	30.5
Dairy products										
Cheese (excluding cottage)[2,5]	24.1	23.7	23.8	24.6	25.0	26.0	26.2	26.8	27.3	27.7
American	12.4	11.5	11.0	11.1	11.1	11.3	11.4	11.5	11.8	12.0
Italian	7.6	8.1	8.5	9.0	9.4	10.0	9.8	10.3	10.4	10.8
Other cheeses[6]	4.1	4.1	4.3	4.5	4.6	4.7	5.0	5.0	5.0	5.0
Cottage cheese	3.9	3.9	3.6	3.4	3.3	3.1	2.9	2.8	2.7	2.6
Beverage milks[2]	226.5	222.3	224.2	221.8	221.2	218.3	213.4	213.5	209.7	210.0
Fluid whole milk[7]	111.9	105.7	97.5	90.4	87.3	84.0	80.1	78.8	75.3	74.6
Fluid lowfat milk[8]	100.6	100.5	106.5	108.4	109.9	109.3	106.5	105.9	102.5	101.7
Fluid skim milk	14.0	16.1	20.2	22.9	23.9	25.0	26.7	28.7	31.9	33.7
Fluid cream products[9]	7.6	7.6	7.8	7.6	7.7	8.0	8.0	8.1	8.4	8.7
Yogurt (excluding frozen)	4.3	4.5	4.2	4.0	4.2	4.2	4.3	4.7	5.1	4.8
Ice cream	18.4	17.3	16.1	15.8	16.3	16.3	16.1	16.1	15.7	15.9
Ice milk	7.4	8.0	8.4	7.7	7.4	7.1	6.9	7.6	7.5	7.6
Frozen yogurt	--	--	2.0	2.8	3.5	3.1	3.5	3.5	3.5	2.6
All dairy products, milk equivalent, milkfat basis[10]	601.2	582.5	563.8	568.4	565.6	565.9	574.1	586.0	584.4	575.5
Fats and oils--total fat content	62.9	63.6	60.8	62.8	65.4	67.4	70.2	68.6	66.9	65.8
Butter and margarine (product weight)	15.2	14.8	14.6	15.3	15.0	15.4	15.8	14.7	13.7	13.5
Shortening	21.4	21.5	21.5	22.2	22.4	22.4	25.1	24.1	22.5	22.3
Lard and edible tallow (direct use)	2.7	2.6	2.1	2.4	3.1	4.1	3.9	4.7	4.9	5.3
Salad and cooking oils	25.4	26.3	24.4	24.8	26.7	27.2	26.8	26.3	26.9	26.1
Fresh fruits[11]	121.6	120.9	122.9	116.3	113.0	123.5	124.9	126.4	124.5	129.2
Canned fruit[12]	18.4	18.5	19.0	18.4	17.1	19.8	18.0	18.3	15.0	16.4
Dried fruit	3.1	3.3	3.3	3.1	3.0	2.8	3.0	3.0	2.8	2.8
Frozen fruit	3.6	3.4	3.7	3.5	3.5	3.8	3.4	2.9	4.2	3.9
Selected fruit juices[13]	72.8	68.3	70.5	66.2	66.6	63.6	74.9	71.6	75.6	75.5
Vegetables[11]										
Fresh	162.4	167.4	172.2	166.2	163.3	171.3	172.3	175.6	176.3	178.7
Canning	99.1	94.8	102.4	110.9	113.3	111.6	112.1	107.6	110.4	109.4
Freezing	67.0	64.2	67.6	70.5	72.8	71.6	76.7	81.4	78.2	83.3
Dehydrated and chips	29.9	29.3	29.9	31.8	32.6	32.1	33.0	31.6	31.2	32.9
Pulses	5.7	7.5	6.3	7.1	7.8	8.2	7.8	8.4	8.5	8.0
Peanuts (shelled)	6.4	6.9	7.0	6.0	6.5	6.2	6.0	5.8	5.7	5.7
Tree nuts (shelled)	2.2	2.3	2.2	2.4	2.2	2.2	2.2	2.3	1.9	2.1
Flour and cereal products[14]	171.4	175.5	174.5	182.0	183.6	186.2	191.0	194.1	192.5	198.5
Wheat flour	129.8	131.7	129.6	136.0	136.9	138.8	143.3	144.5	141.8	148.8
Rice (milled basis)	14.0	14.3	15.2	16.2	16.8	17.5	17.6	19.3	20.1	18.9
Caloric sweeteners[15]	131.6	132.7	133.1	137.0	138.0	141.2	144.4	147.3	149.8	152.0
Coffee (green bean equiv.)	10.2	9.8	10.1	10.3	10.3	10.0	9.1	8.2	8.0	9.0
Cocoa (chocolate liquor equiv.)	3.8	3.8	4.0	4.3	4.6	4.6	4.3	3.9	3.6	--

-- = Not available. P = Preliminary. 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 Gou
7. Plain and flavored. 8. Plain and flavored and buttermilk. 9. Heavy cream, light cream, half and half, eggnog, and sour cream and dip. 10. Includes condensed and evaporated milk and dry milk products. 11. Farm weight. 12. Excludes pineapples and berries. 13. Single strength equivalent.
14. Includes rye, corn, oat, and barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, and fuel. 15. Dry weight equivalent.

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