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AGRICULTURAL OUTLOOK

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Cover: Grain storage facilities, Manchuria, China. Photo by Frederick W. Crook.

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The Ag Sector: Yearend Wrap-Up

The U.S. farm sector saw cash receipts slide in 1999 as supplies rose and farm prices fell overall. But record government payments are expected to pull up net cash income to just below the 1997 record. With national average crop yields high and export demand stagnant over the last 3 years, stocks are mounting for key commodities, including wheat, corn, soybeans, cotton, and rice. Field crop prices have fallen from record or near-record levels in the mid-1990's to the lowest in many years. Although total meat production is forecast record large in 1999, some livestock prices, particularly for cattle, are showing signs of recovery. Farm financial conditions on average remain strong, but regional fortunes vary significantly, depending on the mix of production and local weather.

The Long-Term Boom in China's Feed Manufacturing Industry

China's feed manufacturing sector is expanding rapidly as livestock production shifts from a sideline—feeding farm byproducts to very few animals—into a full-time occupation—feeding purchased feedstuffs to a relatively large number of animals. China may continue to resist importing complete feeds as it emphasizes self-sufficiency in grain production, but imports of nongrain feed ingredients will likely expand. For U.S. exporters of oilseeds, oilseed meals, and feed additives, medium- and long-term prospects remain positive as China's livestock and feed sectors prepare to respond to growing consumer demand.

Rising Milk Production Restrains Prices

Milk production gains likely will exceed demand growth for the remainder of 1999 and into early 2000, leaving farm-level milk prices somewhat weak in first-half 2000 and pulling down the projected annual average by 8-12 percent from 1999. Prices are forecast to recover in second-half 2000 as rises in milk production start to abate and demand growth remains firm.

Larger Citrus Crop Expected in 1999/2000

The 1999/2000 citrus crop is expected up 20 percent from last year as better weather conditions so far in California and Florida promise substantially larger orange, lemon, and tangerine crops. Oranges for fresh use should be in ample supply this winter, and both growers and consumers will likely see lower prices than last year.

Abundant World Rice Supplies Pull Down Prices

International rice prices have declined sharply this year in the face of large supplies in nearly all exporting countries and weaker global demand stemming from a production rebound in major importing countries. World rice trade is projected to fall 11 percent in 1999 from last year's record 27.3 million metric tons (milled basis). Indonesia, Bangladesh, the Philippines, and Brazil—the four largest rice importing countries—are responsible for the bulk of the 3-million-ton drop. Global trade is projected to drop in 2000 as well. With a record 1999 U.S. crop and lower export demand, the U.S. season-average 1999/2000 farm price is projected to drop about a third to $5.50-$6 per cwt, with a midpoint the lowest since 1986/87.

Profiling Crop Insurance Purchasers

Demand for crop insurance has increased recently as commodity program changes followed passage of the 1996 Farm Act, Federal insurance premium subsidies rose, and several new revenue insurance products were introduced. USDA's Economic Research Service examined three factors affecting demand for insurance—farmers' risk characteristics, farm income level, and insurance cost—based on data from Iowa corn and soybean producers who purchased yield and revenue insurance in 1997. Study results suggest that by considering risk and other characteristics associated with farmers who buy different types of contracts, it may be possible to structure insurance rates to more closely reflect farmers' risk profiles and may lead to a more self-sustaining agricultural insurance industry.

Agriculture in Poland & Hungary: Preparing for EU Accession

Several Central and East European countries (CEE's), including Poland, Hungary, and the Czech Republic, are likely to join the European Union (EU) in the next decade. CEE economies will benefit from the inflow of structural funds (e.g., for developing institutions and infrastructure), and CEE farmers will benefit from price and income supports enjoyed by EU-15 farmers. But many CEE producers, especially in Poland, are dubious about their ability to compete with high-quality EU products in a single market, particularly when costs of adopting EU regulations raise farmers' production costs. USDA's Economic Research Service recently analyzed the effects of enlargement on farm production and trade. Among the conclusions: enlargement could lead to EU surpluses of rye, beef, and pork, and as a result the EU could have difficulty meeting commitments on limiting beef and pork export subsidies.

Dennis A. Shields

The Ag Sector: Yearend Wrap-Up

The U..S. farm sector saw cash receipts slide in 1999 as supplies rose and farm prices fell overall. But record government payments are forecast to pull up net cash income to just under the 1997 record.

With national average crop yields high and export demand stagnant over the last 3 years, stocks of key commodities—including wheat, corn, soybeans, cotton, and rice—are mounting. Total meat production is also forecast record large in 1999. Although farm financial conditions on average remain strong, regional fortunes differ significantly, depending on the mix of production and local weather. Income prospects were threatened in areas suffering late-summer drought, particularly eastern portions of the country. Also, earnings from farm marketings have varied with marketing strategies and timing of sales—some farmers have done extremely well, while others have sold at very low prices.

Season-average prices for major field crops have fallen from record or near-record levels in 1995/96 and 1996/97 to the lowest in many years, with steep price drops in 1998 for major field crops and for hogs. While some livestock prices, particularly cattle, are showing signs of recovery, prices of many commodities have dropped further in 1999. For some commodities, improvement in receipts is likely in 2000. But significant improvement in overall sector performance may be at least another year away.

Near-Record Farm Income Despite Low Prices

Total cash receipts for 1999 are forecast to drop 3 percent from last year to $192 billion, down 8 percent from the 1997 peak. Extremely low prices for field crops are the major reason for the decline—cash receipts for these commodities are falling 14 percent from last year and 24 percent from the 1997 record. Wheat, corn, and soybean prices for the 1999/2000 marketing year are expected to be the lowest in more than a decade.

Cash receipts for the livestock sector are forecast up nearly 2 percent in 1999 to the second-highest level of the 1990's, driven by larger receipts for cattle and calves and for broilers. Dairy receipts remain strong despite somewhat lower prices. But with large hog supplies continuing, year-over-year prices are down 7 percent from 1998 and are 40 percent off the 1997 average. As a result, cash receipts to hog producers have fallen from $13 billion in 1997 to $9 billion in 1999.

Grower receipts from specialty crops are higher in 1999, with a strong domestic economy continuing to fuel sales of greenhouse and nursery products. The grower price index for fruit and nuts has remained above year-earlier levels, largely reflecting significantly lower citrus supplies during 1998/99 and smaller apple and pear crops in 1999. On the other hand, vegetable growers have been harvesting large crops in 1999—particularly tomatoes, lettuce, and broccoli—and fresh-market prices have been relatively low for much of the year.

For the U.S. farm sector, net cash income this year is expected to total $57.9 billion, up nearly $3 billion from 1998 and just $600 million less than the 1997 record. Income would have been significantly lower without a large cash infusion from government payments, almost double the 1998 level and a forecast record-high $22.5 billion. Government payments this year will equal 12 percent of cash receipts and 39 percent of net cash income.

In calendar 1999, direct government payments for major field crops include: production flexibility contract payments ($5.1 billion) under the 1996 Farm Act; emergency assistance under separate legislative packages signed by the President in October 1998 (about $2.8 billion of a nearly $6-billion package) and October 1999 (about $5.9 billion of an $8.7-billion package); and loan deficiency payments—LDP's—($6.6 billion). These payments should reduce cash-flow problems for many farm businesses in 1999.

The largest impacts of increased payments are concentrated in regions with the highest proportion of producers who signed a production flexibility contract, which has also served as the delivery mechanism for much of the emergency assistance the past 2 years. Average net cash income is now forecast down only 1 percent in 1999 in the Heartland, compared with the 11-percent drop expected prior to the October 1999 legislation. Average net cash income in the Northern Great Plains and in the Prairie Gateway will rise 19 percent and 17 percent in 1999, compared with earlier forecasts of 2 percent or less. Income prospects remain poor in the Southern Seaboard; adverse weather along with low prices for tobacco and hogs (commodities not covered by production flexibility contract payments nor market loss assistance

payments) will result in a 10-percent decline in average net cash income. (See *AO* June-July 1999 for resource region map at www.econ.ag.gov/epubs/pdf/agout/june99/.)

Very low inflation has kept farm expenses from rising significantly in 1999. For most farm businesses, stronger cash flow positions in 1999 should reduce debt repayment problems. Nationwide, only 11 percent of farm businesses are expected to experience severe debt repayment problems, down from 13 percent in 1998. In the Northern Great Plains and Prairie Gateway, which has had persistent problems with debt repayment, the proportion of farm businesses with severe debt repayment problems, while still high (about 15 percent), is not expected to increase.

Mounting Supplies Hold Down Prices

Despite this year's local and regional weather problems, national yields have not been severely affected—nor have weather problems pulled down yields since 1995. Large crops and stagnant export demand over the last 3 years have caused stocks to rise steadily, driving down prices. By yearend 1999/2000, U.S. stocks will be more than double 1995/96 levels for wheat, coarse grains, and soybeans. Stocks of rice and cotton are also forecast up sharply from 1995/96.

Good weather has not been limited to the U.S. Crops outside the U.S. have also been large since 1995/96, when poor harvests and tight supplies sent prices to extremely high levels. Following the high prices of the mid-1990's, U.S. and foreign crop acreage expanded swiftly, and large output—in both exporting and importing countries—has limited U.S. exports. Prices began to decline, but world plantings have been slow to adjust, although world acreage is down in 1999/2000 for wheat and coarse grains.

Producers in the Southern Hemisphere, notably Argentina but also Brazil, have continued to step up production, particularly of soybeans. In Argentina, soybean area is up about 25 percent since 1995/96, and USDA forecasts an 18.5-million-ton crop in 1999/2000, 45 percent above 1995/96. Brazil's soybean area is also up nearly 15 percent in this period, and the current crop forecast is 26 percent over 1995/96, because Brazil's yields, like Argentina's, are sharply higher. In both countries, new soybean varieties, infrastructure investment, and policy reform are the driving forces behind production expansion (*AO* March 1998, May 1998).

China made a significant policy shift in the mid-1990's toward greater self-sufficiency in basic foodstuffs, exerting a strong impact on global demand. Grain output has risen sharply in recent years, while growth in domestic consumption has slowed. The world's largest importer of wheat in 1995/96, China is now importing only small amounts. Over the same time period, the country has shifted from net importer to net exporter of corn and rice. China's imports of soybeans, however, are up sharply. The country remains a leading importer of soybean oil and other vegetable oils, and a key market for soybean meal. The strength of the Chinese market for soybeans and products helps explain relatively strong soybean prices in recent years.

The global financial crisis and its impacts on Asia, Russia, and Brazil also play a role in market weakness. The crisis and associated U.S. dollar appreciation in 1998 reduced overall demand for imports in affected countries. But this year, many of these economies have begun to recover, and the U.S. dollar has depreciated against currencies of major importers. Overall, the crisis has been less of a shock to U.S. ag exports than initially feared.

The volume of U.S. agricultural exports in fiscal 1999 (October 1998-September 1999) rose by more than 10 percent as foreign competition declined, although shipments were well below levels of the mid-1990's. U.S. export value, however, was down again in 1999 as export prices declined further. USDA expects a further increase in export volume in fiscal 2000, with export value near last year's level.

U.S. beef, poultry, and dairy producers are faring better than their field crop counterparts, as low crop prices translate into reduced feed costs. After several years of losses for beef cattle producers, particularly cow-calf operators, beef cattle numbers are declining and price prospects are turning up. Price gains are limited by lackluster U.S. meat and poultry exports, which have leveled off after growing at double-digit rates during much of the 1990's. Decline in the Russian economy, together with the ruble's sharp drop in value last year, has severely cut into U.S. livestock product exports to Russia, once a fast-growing market for U.S. pork and poultry.

When Will the Price Slump End?

USDA forecasts season-average farm prices will rise modestly for hogs and cattle in 1999/2000 and will be lower for many other commodities. Across most of the field crop-livestock complex, prices remain low, suggesting only modest improvement, if any, in cash receipts during 2000. Improvements in producers' market returns will therefore depend on the price effects of developments in a number of areas.

As always, weather next year will be critical. At some point, the stretch of good

With Government Payments Record High, Net Cash Income Is Up

	1990-95	1996	1997	1998	1999
			$ billion		
Crop receipts	88.3	106.2	111.1	102.2	95.7
Livestock receipts	87.7	93.0	96.5	94.5	96.0
Government payments	9.2	7.3	7.5	12.2	22.5
Net cash income	53.6	57.5	58.5	54.9	57.9
U.S. ag exports[1]	43.5	59.8	57.3	53.7	49.0
			Million metric tons		
World grain stocks[2]	317.0	293.8	330.0	347.6	346.9
			$ per bu.		
Corn price[3]	2.45	2.71	2.43	1.95	1.80

1999 forecast. 1. Fiscal year ending September 30. 2. Ending stocks for season beginning in year indicated. 3. U.S. season-average farm price for marketing year beginning in year indicated.

Economic Research Service, USDA

Agricultural Economy

Ag Policy: Marketing Loan Benefits Supplement Market Revenues for Farmers

Low levels of market prices for many field crops have triggered the availability of *marketing loan benefits* to farmers. Total government marketing loan benefits for 1998 crops have reached $3.8 billion and could exceed $5 billion for 1999 crops.

1998 crops	Season-average price	Marketing loan benefit*	Average per-unit revenue	Commodity loan rate
			$/bu.	
Soybeans	5.00	0.44	5.44	5.26
Wheat	2.65	0.19	2.84	2.58
Corn	1.95	0.14	2.09	1.89
Sorghum	1.70	0.12	1.82	1.74
Barley	1.98	0.23	2.21	1.56
Oats	1.10	0.12	1.22	1.11
			$/lb.	
Upland cotton	0.602	0.086	0.688	0.5192
			$/cwt	
Rice	8.83	0.07	8.90	6.50

Based on cumulative LDP and loan activity data through November 17, 1999, from Farm Service Agency's PSL-82R report. *Weighted average, based on portions of crop receiving marketing loan gains, loan deficiency payments, and no benefits. Not adjusted for benefits paid for silage, etc.

Economic Research Service, USDA

Farmers can receive marketing loan benefits in two ways: through loan deficiency payments and marketing loan gains. Generally, whenever the market price for an eligible field crop drops below its applicable commodity loan rate, a farmer may opt for a revenue-boosting *loan deficiency payment* (LDP) in lieu of securing a commodity loan. (Commodity loans provide interim financing to producers of eligible commodities, regardless of market prices; farmers pledge crops as collateral and receive loans at a specified rate—the loan rate—per unit of the commodity.) The loan deficiency payment rate equals the difference between the applicable commodity loan rate and the posted county price for wheat, feed grains, and oilseeds and the adjusted world price for upland cotton and rice (*AO* October 1998). Alternatively, eligible farmers realize a *marketing loan gain* by repaying outstanding commodity loans at a per-unit rate—posted county price or adjusted world price—that is below the loan rate.

LDP's and marketing loan gains augment market receipts for eligible field crops and result in national average per-unit revenues that exceed season-average prices and commodity loan rates. Marketing loan benefits for the 1998 soybean crop illustrate how this works. Through mid-November 1999, about 89 percent of the 1998 soybean crop had received a marketing loan benefit—nearly 78 percent had received an LDP, with an average payment rate of $0.41 a bushel; and more than 11 percent had received a marketing loan gain averaging $1.06 a bushel. The rest of the 1998 soybean crop did not receive a marketing loan benefit, although some 1998 soybean commodity loans were still outstanding. Average benefit rates differ for the two options because a large portion of 1998-crop soybean marketing loan gains was taken in the spring and summer of 1999 when soybean prices were lower than in the fall of 1998, when most LDP's were received.

Accounting for LDP's, marketing loan gains, and the portion of the crop with no marketing loan benefit, the weighted-average marketing loan benefit for the 1998 soybean crop was about $0.44 a bushel. This benefit augmented the season-average price of $5 per bushel, raising the average per-unit revenue for soybeans to $5.44 a bushel, $0.18 above the 1998 national soybean loan rate of $5.26 per bushel.

Similar benefits went to other field crops with marketing loan provisions—wheat, corn, grain sorghum, barley, oats, rice, upland cotton, and several minor oilseeds. For all of these crops, marketing loan benefits supplemented market receipts, resulting in average per-unit total revenues exceeding the respective national loan rates. As with soybeans, marketing loan benefits for grain sorghum and oats raised the average per-unit revenue above the loan rate from a season-average price that was *below* the loan rate.

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For more information about marketing loan benefits, see Online Reports, Price Support Division, Farm Service Agency/USDA at http://www.fsa.usda.gov/dafp/psd.

weather will end, crop output should drop, and prices rise. However, large U.S. stocks of field crops will weaken the response of prices to reduced production.

Planted acreage of field crops around the world has dropped somewhat over the last several years, and further declines are likely next year after another year of low prices, both inside and outside the U.S. Supply adjustments in the U.S. livestock sector, which have already started, will mean smaller supplies and higher prices for both beef and pork next year.

The continued recovery of crisis-affected countries will also have an impact on export prospects and prices. Recovery has been faster than initially expected in countries like South Korea and Thailand. But difficult issues of structural reform remain, and the future strength of recovery in some countries remains in question. The economies in Russia and other countries of the former Soviet Union continue to slide backward, with no fundamental turnaround in sight.

Continued strong macroeconomic performance in developed countries remains indirectly critical to U.S. agricultural exports, prices, and farm income. While demand for farm commodities in developed countries is generally unresponsive to income changes, many developing countries depend on healthy markets in developed countries to support their economic growth. This growth, in turn, builds demand for agricultural products in developing countries, the most important growth markets for U.S. agricultural exports. AO

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Briefs

Specialty Crops

Larger Citrus Crop Expected In 1999/2000

The 1999/2000 citrus crop, buoyed by improved weather conditions so far in both California and Florida, is expected to be 20 percent larger than last year. Orange and lemon crops are each expected to be up 24 percent, while tangerine production is forecast to increase 27 percent. Despite the large gains expected this year for most U.S. citrus crops, orange production will remain below the 1997/98 record, and the tangerine crop alone is forecast to reach a record level.

Freezing temperatures hit California's San Joaquin Valley late last December, reducing the state's 1998/99 navel crop to less than half the size of the previous year and cutting the Valencia crop by over a third. The state's lemon and grapefruit crops, generally grown farther south, were largely unaffected by the freeze by the freeze.

Although the period still lies ahead when freezing temperatures are likely to affect production, the 1999/2000 California orange crop is expected to be 76 percent above last year. This would still be smaller than the 1997/98 crop, as navel orange production has not fully recovered. If the forecast is realized, the supply of oranges should be ample for fresh use this winter and through mid-2000. Grower prices will likely drop somewhat from last year but still exceed 1997/98. Consumers should also see lower retail prices than last year, especially with fresh California oranges in plentiful supply through next summer.

California's *Citrus Acreage* report for 1998—the state's first since 1992—shows acreage increasing for most major citrus crops. Total navel orange acreage rose 13 percent since 1992, and Valencia orange acreage increased 5 percent. Navels and Valencias are grown mostly in the San Joaquin Valley. Lemon acreage—mostly in Ventura County—increased 12 percent in 1992-98. Nonbearing acreage of both navel and Valencia oranges accounted for about 6 percent of total 1998 acreage planted. About 12 percent of the state's lemon acreage is not yet bearing fruit.

Florida's orange crop, which is expected to account for 75 percent of U.S. orange production in 1999/2000, is forecast 14 percent larger than last year, when the crop was small in both number and size of fruit because of poor weather conditions during the bloom and growing seasons. Better growing conditions have improved the outlook for this year's crop. However, a relatively warm, dry winter and spring in 1999, with only sporadic rain, led to a longer bloom period from January through May in some parts of Florida. With an extended bloom period and labor availability already a problem, growers may have difficulty finding pickers for the late-blooming fruit. Low quantities of fruit ready for harvest at a given time, and wide dispersion within a grove, may make it unattractive for pickers to remain, especially if the delayed harvest overlaps with peak-season harvest of other fruit or vegetables in the area.

Most of Florida's orange crop is used to make juice. However, a growing proportion of the crop is going into making the increasingly popular chilled, not-from-concentrate (NFC) orange juice, and less into frozen concentrate. Juice production in 1999/2000 should continue to follow this trend. Juice production is expected to increase about 12 percent over last year, but total supply could be about 2 percent below last year, with beginning stocks at a 5-year low coming into this year's juice production season. Juice processors try to maintain a certain quantity of juice in stock (reserves for some number of days, based on market movement), so the amount of juice available for consumption could be even lower, putting upward pressure on retail prices. Prices may also move higher as processors offer fewer price-lowering marketing promotions to consumers in an effort to keep a steady supply of NFC orange juice available throughout the year. However, promotions could appear even with a relatively short supply, as competition continues between NFC and frozen concentrate, as well as among the three major brands.

Florida's grapefruit crop is projected to reach 2.5 million short tons, down 2 percent from last year. Colored seedless grapefruit should comprise about 47 percent of the state's grapefruit, with white seedless comprising much of the remainder and seeded grapefruit grown to a much lesser extent. Hurricane Irene, which hit Florida's east coast in October, increased droppage and reduced the overall size of this year's grapefruit crop. Florida growers have removed acreage from grapefruit production over the past few years—a response to low prices for both fresh and processing uses. Grapefruit groves had a larger proportion of late-blooming trees this year than is the norm, which will necessitate an extended harvest period in the spring.

Florida's grapefruit production is expected to be 100-percent utilized for juice or fresh fruit this year, as it was last year but unlike the previous 2 years. Low juice inventories at the beginning of this season (December 1999) and increased demand for not-from-concentrate grapefruit juice should drive demand to use all the grapefruit produced in the state this year and increase grower prices.

A special 1999 Florida grapefruit and tree survey—usually scheduled for every second year—was conducted by the Florida Agricultural Statistics Service earlier this year and showed that grapefruit acreage had declined 11,559 acres (9 percent) since the 1998 survey (*AO* November 1998). White seedless grapefruit acreage declined the most. Losses were due to several factors, including grove abandonment for economic reasons, unhealthy groves being pushed (cleared) and replanted, or sick trees being removed from healthy groves and not replanted. Acreage loss was greatest in the three largest grapefruit-producing counties in Florida, which reduced their acreage by 8 percent, accounting for 62 percent of total grapefruit acreage loss in the state. No Florida county reported an increase in number of acres or trees. AO

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Briefs

Livestock, Dairy, & Poultry

Rising Milk Production Restrains Prices

Gains in milk production appear to be overtaking strong demand for dairy products as prices slid in recent months. Farm-level milk prices in 1999 are projected to fall an average 7 percent from 1998's record, a very moderate decline given the large rise in production. Mid-November cheese prices had plunged almost 45 percent from the late-August record. However, this drop, like the preceding price peak, may be an overreaction, and cheese prices may recover slightly.

July-September milk cow numbers interrupted a fairly constant trend by posting an unusual increase from a year earlier, even if the rise was only fractional. Relatively strong returns to milk production over the last 3-4 years have encouraged financially stronger producers to expand and have modestly slowed the exit of weaker farmers. The most dramatic effect has been in the West, where recent strong returns, ample supplies of alfalfa hay, and lower priced concentrate feeds have supported a substantial increase in milk cow numbers.

Summer milk production rose more than 3 percent from a year earlier. Milk per cow was boosted 3 percent by very favorable milk-feed price ratios, although the gains came from a relatively weak quarter of 1998. Producers had ample incentive to push milk per cow with additional feeding of grains and other concentrates. Alfalfa hay of mediocre quality was plentiful and much cheaper than in recent years, and significant weather stress was relatively uncommon.

Milk output expansion is expected to continue through 2000. Ample feed and the returns of recent years may sustain the growth, although lower milk prices and uncertainties related to government program changes are projected to slow production increases slightly. Milk production is expected to grow 2 percent in 2000, following a 3-percent rise this year.

Sales of dairy products, particularly cheese, continue to grow briskly despite sharply higher prices since mid-1998. Most of this demand strength can be attributed to brisk growth in the general economy and in consumer incomes. However, recent demand growth may have another catalyst. Dairy demand in 1996 and 1997 did not meet expectations generated by overall economic growth, and demand during the last 2 years may be catching up with economic growth that spans a longer period.

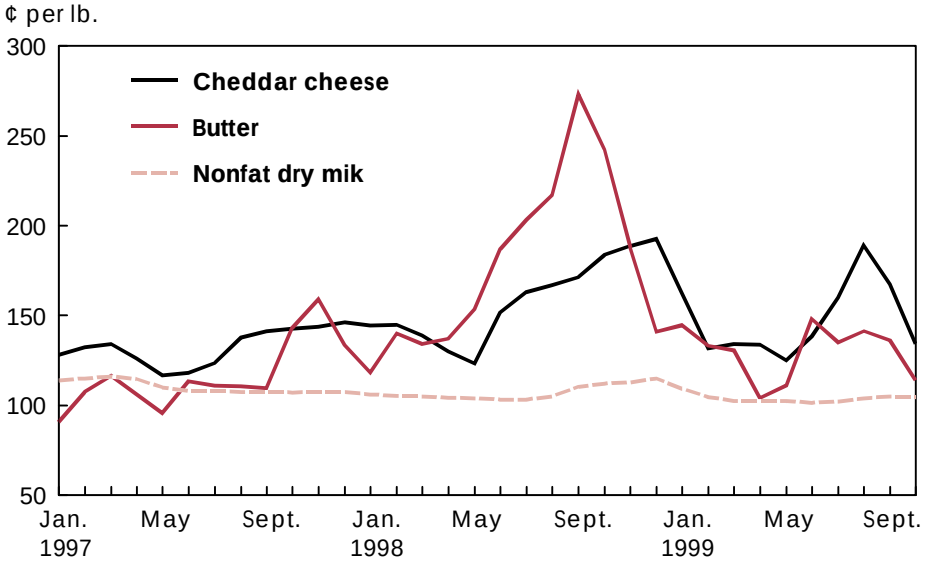
Dairy demand should stay strong so long as the economy continues to grow and consumer spending is brisk. During the rest of 1999 and in 2000, commercial use of dairy products is expected to grow substantially at prices above most of those in the 1990's. Restaurant use, sales of premium products using dairy ingredients, and sales for entertaining (such as cheeses and dips) may be particularly strong.

Nonfat dry milk contracts under the Dairy Export Incentive Program (DEIP) were heavy this spring and summer. Essentially all of the reallocated tonnage from earlier years has been filled, plus more than half the allocations for the July 1999-June 2000 year. Many recent bids have been for smaller bonuses (subsidies) than earlier in the year, even though domestic and international prices have changed little. Some buyers who prefer buying from the U.S. may have wanted to ensure getting their share of this year's rapidly dwindling DEIP allocations.

Brisk DEIP exports were not enough to clear the surplus of nonfat dry milk, and sales to USDA under the price support program continue. During the marketing year that ended in September, net government purchases totaled 172 million pounds. Total net removals for price support, including DEIP removals, amounted to about 450 million pounds. The price-support purchase program, once scheduled to end with 1999, was recently extended for 1 more year. The nonfat dry milk surplus in 2000 probably will be similar to this year's—with sizable removals of nonfat dry milk but very little removals of cheese or butter.

In the wake of substantial growth in both milk production and demand, large swings in milk and milk product prices have been triggered this year by relatively minor adjustments in pipeline stocks and price expectations. Cheese prices shot

Cheese and Butter Prices Have Been Volatile in the Last 2 Years



Economic Research Service, USDA

from about $1.20 per pound (40-pound blocks of Cheddar on the Chicago Mercantile Exchange) in mid-May to $1.97 in late August, mostly because of rising cheese sales and concerns about inadequate pipeline stocks to meet second-half needs, augmented by fears of low warehouse stocks. Memories of 1998 experiences with short supplies and high prices may have prompted some buyers to be particularly aggressive about ensuring full supplies in advance. Once the concerns started to ease, cheese prices dropped to mid-November's $1.12.

Dairy production gains likely will exceed demand growth during the remainder of 1999 and into early 2000, generating farm milk prices much below those of a year earlier or last summer. However, prices may remain volatile. The price decrease in 2000 probably will be larger than 1999's, with prices possibly dipping 8 to 12 percent. First-half prices in 2000 will be somewhat weak. During the second half of 2000, prices are forecast to recover as increases in milk production start to abate and demand growth remains firm. AO

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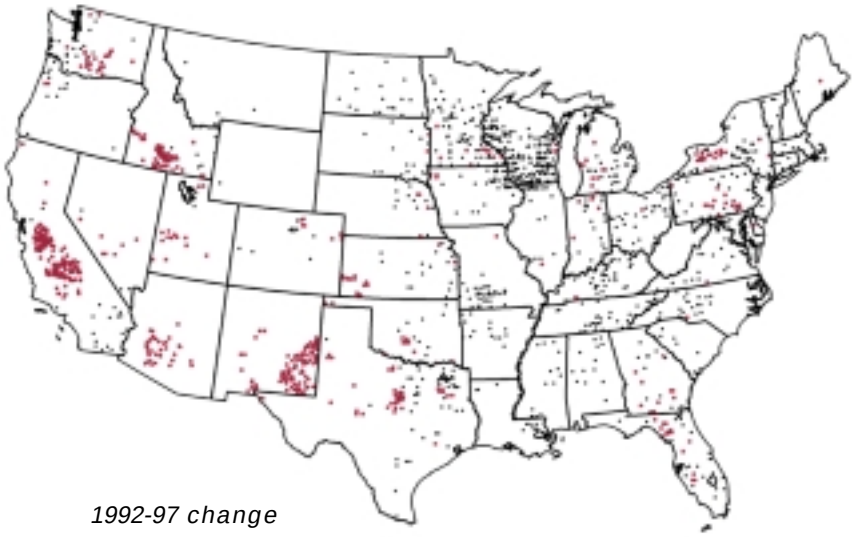
Ag Industry Snapshot

Geographic Concentration of the U.S. Dairy Industry

The West has seen a fairly steady increase in milk cow numbers during the last 20 years, unlike the U.S. overall, which has registered a decline. A warm, dry climate and large, dependable supplies of high-quality forage allow many parts of the West to enjoy a cost advantage in milk production.

But perhaps more importantly, the region pioneered operations with very large milk cow herds and with tasks divided into highly specialized jobs, resulting in substantial production efficiencies. The approach is being successfully imitated, with some modification, in the northern U.S. Nevertheless, small northern farms continue to leave the industry as farmers find it difficult to earn acceptable family incomes. Farms in the South have had problems competing because of the stress of a humid, hot climate and declining relative costs of transporting milk from the North.

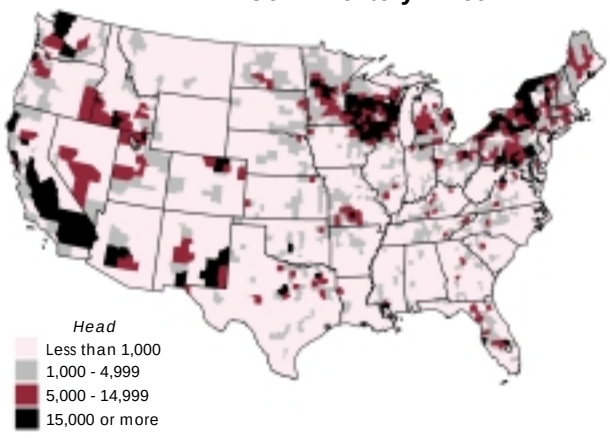
Milk Cow Inventory Shifts West



1992-97 change

1 Dot = Increase of 1,000 milk cows
1 Dot = Decrease of 1,000 milk cows
U.S. net decrease = -396,379

Milk Cow Inventory in 1997



Source: 1997 Census of Agriculture, National Agricultural Statistics Service, USDA.
Economic Research Service, USDA

Commodity Spotlight

Abundant World Rice Supplies Pull Down Prices

International rice prices have declined sharply this year in the face of large supplies in nearly all exporting countries and weaker global demand. Prices dropped as major exporting countries produced record or near-record crops and as production rebounded in major importing countries in Southeast Asia and Latin America—two regions severely impacted by the 1997/98 El Niño. Weak Asian currencies, Brazil's 1999 currency devaluation, and historically low prices for other grains have also tilted trading prices downward.

After spiking to a record 27.3 million metric tons (milled basis) in 1998, world rice trade is projected to fall 11 percent this year and to contract nearly 5 percent in 2000. While global rice trade in 2000 would be more than 4 million tons below the 1998 record, it would still be well above pre-1998 levels.

Because the international rice market is "thin"—i.e., only a small share of production is traded annually—small changes in trade can cause large price fluctuations. Only about 6 percent of global rice production is traded annually, well below the traded share of soybeans (25 percent), wheat (20 percent), and coarse grains (around 12 percent). Segmentation of rice trade by type and quality magnifies this "thinness."

For the U.S. rice sector, international market events have a strong impact, as exports comprise more than 40 percent of U.S. production. The U.S. is typically the third- or fourth-largest exporter of rice—behind Thailand and Vietnam—accounting for 12-13 percent of global trade.

International Rice Prices Drop Sharply

When Thailand, the world's largest exporter, devalued its currency in the summer of 1997, international rice prices—quoted in U.S. dollars—dropped sharply. The economic crisis rapidly spread across much of Asia, pushing prices lower. By that fall, other Asian exporters lowered prices to remain competitive, and U.S. prices fell slightly. International prices dropped steadily until the end of 1997, when Indonesia and the Philippines began importing massive amounts of rice, supporting international prices through the summer of 1998.

In January, 1999, with massive El Niño-driven sales to Indonesia and the Philippines over, international prices for milled rice—measured by Thai 100-percent grade B—had dropped from $330 per ton last fall to about $300. By late August, weaker world trade had pushed prices down further to less than $250. A month later, prices had dropped to $218 per ton on expectations of bumper harvests in Asia, a near-halt to purchases by Indonesia—the world's largest importer—and a weaker Thai baht. In early September, Indonesia announced a new policy temporarily limiting private imports to higher quality rices, effectively halting new private purchases.

Prices rose slightly in October and early November—to $229 per ton—as the baht strengthened, but global supply and demand fundamentals remain bearish. Prices are still the lowest since summer 1994. With global ending stocks projected at nearly 60 million tons—the largest on record—there is little expectation of price strength for the remainder of 1999/2000.

Top-quality U.S. southern long grain milled rice is currently quoted at about $300 per ton, down from $386 in January and the lowest since spring 1995. Several large food aid purchases late in the 1998/99 marketing year have slowed the fall in U.S. prices in the face of weaker world trade and falling international prices. U.S. rice typically sells at a small premium to Thai rice. While the difference between Thai and U.S. rice prices—about $70 per ton—has contracted since the spring and summer, it is still large enough to make U.S. rice uncompetitive in price-sensitive high-quality markets such as South Africa and the Middle East.

Asian, Latin American Imports Drop As Production Rebounds...

Indonesia, Bangladesh, the Philippines, and Brazil—the four largest rice importing countries—are responsible for the bulk of the 3-million-ton drop in projected global rice imports in 1999. In 2000, their imports—except for Brazil's—are projected to drop further. These four countries had imported record amounts of rice in 1998, almost exclusively indica, which has borne the brunt of this year's weaker trade. El Niño's impact on 1997/98 crops drove record-high imports in Indonesia, the Philippines, and Brazil, while severe flooding in summer 1998 spurred record imports in Bangladesh.

In 1998/99, production in both Southeast Asia and Latin America rebounded more strongly than expected from El Niño. The large crop expansion in Southeast Asia was due primarily to higher yields, while in Latin America, higher domestic prices encouraged greater plantings, and extremely favorable weather promoted substantial yield recoveries.

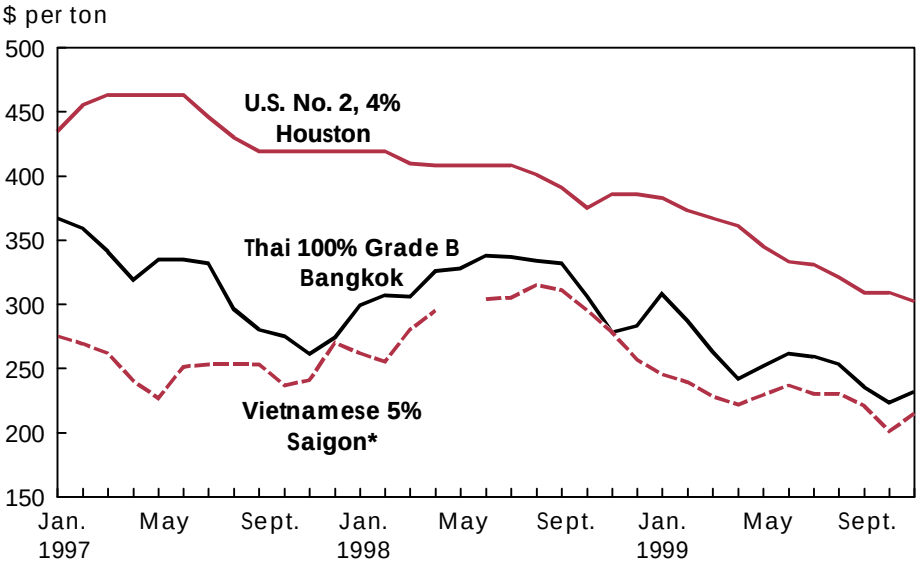
Indonesia's 1998/99 rice crop (harvested in 1999), rose more than 3 percent, pulling projected imports down 2.2 million tons from 1998's 6.1 million—the largest amount of rice ever imported in a year by a single country. In the Philippines, production rose nearly 3 percent, pulling 1999 imports down 45 percent to 1.2 million tons. In South Asia, Bangladesh's 1998/99 crop—up 1 percent from a year earlier—was record high, resulting in a 700,000-ton drop in imports to 1.8 million. Record imports in 1998 had resulted in larger carryover stocks, a major factor in the 1999 drop in imports.

For 1999/2000, record or near-record crops are projected for these three countries. As a result, Indonesia's imports are projected to drop 23 percent to 3 million tons, the Philippines' to fall 25 percent to 900,000 tons, and Bangladesh's to drop 800,000 tons to 1 million tons.

Overall, Asian rice imports are projected to drop 26 percent in calendar 1999 to 9.8 million tons, declining 18 percent in 2000 to 8.1 million tons. South and Southeast Asia account for nearly all of the decline. Partially offsetting the big drop in South and Southeast Asia are larger purchases by Japan and South Korea, which are required to increase imports annually as part of their WTO commitments. Both countries import mostly japonica rice.

In Latin America (including Mexico), total rice production in 1998/99 rebounded 26 percent to a record 14.8 million tons. Brazil surpasses all other non-Asian nations in rice production, consumption, and imports. Brazil's 1999 crop (harvested in March and April) jumped 34 percent, making it the country's largest in over a decade and leading Brazil to cut 1999 imports by 42 percent to a projected 850,000 tons. Larger crops are also responsible for lower imports by Colombia, Ecuador, and Peru.

International Rice Prices Are Lower Than a Year Ago



Monthly prices based on weekly quoted prices for long grain milled rice, f.o.b. at respective ports.
* In early April through May 1998, the government of Vietnam halted new export sales.

Economic Research Service, USDA

For 1999/2000, production in Latin America is projected to drop 7 percent as yields return to more normal levels and lower prices induce a drop in area planted. The smaller crop explains a projected 9-percent increase in Latin American imports to 3 million tons in 2000, the second-highest on record. Brazil's imports, rising 250,000 tons to 1.1 million tons, account for the bulk of the projected increase. Mexico and Cuba are also projected to import more rice.

...While Export Supplies Are Abundant Worldwide

Coinciding with this year's substantial reduction in global import demand are

Window on the Past

Excerpts from USDA publications

Probing Potential Trade Markets

Our heavy foreign trade within late years has attracted much attention at home and abroad. Numerous inquiries have been received regarding the commercial opportunities offered by the former Spanish possessions. No authority has been given to this Department to get exact information regarding trade facilities in Puerto Rico, Cuba, and Philippine Islands. The Section of Foreign Markets, has, however, collated and published everything available regarding the trade of those islands.

Frequent inquiry comes regarding trade in China and Russia, which seem to offer great commercial possibilities in the immediate future. There is a dearth of reliable information regarding both these countries.

Yearbook of Agriculture, 1899

Contact: Anne B.W. Effland (202) 694-5319
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Commodity Spotlight

Rice Marketing Years Vary by Country

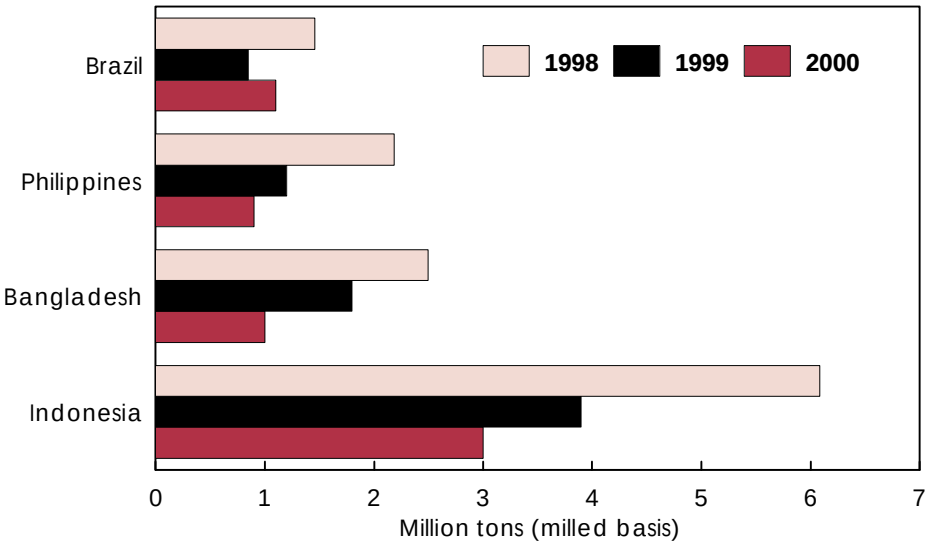
Cropping patterns vary by country and are largely determined by climatic conditions. Areas in or near the tropics are often able to grow two or three rice crops in a 12-month period.

To report and forecast production of rice worldwide, USDA's Foreign Agricultural Service designates 12-month marketing years for individual countries based on when the bulk of the annual harvest impacts U.S. exports. Supply and use is then aggregated across countries, with the international marketing year spanning up to 18 months—the time between the first month and the last month of the various individual marketing years.

For a single country, harvest in marketing-year 1998/99 may occur in calendar-year 1998, 1999, or in parts of both years. For example, China harvested three rice crops—early, intermediate, and late—in calendar-year 1998, which is the 1998/99 marketing year for China. The U.S. 1998/99 marketing year began in August 1998, just prior to the bulk of the harvest.

With marketing years varying by country, world rice trade is typically reported and analyzed on a calendar-year basis.

Rice Imports by Four Largest Importers to Remain Below 1998 Records



1999 and 2000 projected.
Economic Research Service, USDA

abundant supplies of rice worldwide. A situation of record or near-record crops in nearly all exporting countries virtually guarantees adequate supplies for the level of global imports expected, as well as adequate buffer stocks in the event of unexpected production shortfalls in some areas.

Asia—with five of the top six exporting countries—typically accounts for more than 70 percent of global rice exports and supplies nearly all the continent's indica rice imports. All five produced abundant rice crops in 1998/99. India, Vietnam, and Pakistan harvested record or near-record crops. Though the rice crop in Thailand—the world's largest exporter of rice—declined slightly, it was just 3 percent below the previous year's record high. Despite severe flooding in 1998, China's 1998/99 crop (harvested in 1998), was still its second highest to date. For 1999/2000, record or near-record crops are projected again for all five countries. The result will be more-than-adequate export supplies.

Asia's total 1999 rice exports are projected to drop 13 percent from 1998's record 21 million tons, with India and China accounting for most of the reduction. India, having exported a record 4.5 million tons in 1998, is projected to sell only 2.75 million this year, due mostly to a large drop in Bangladesh's imports, not to lack of supplies. China's 1999 exports are projected to drop 1.2 million tons from last year's abnormally high level to a more typical 2.5 million tons. Thailand is projected to export 6.1 million tons in 1999, down 7 percent from 1998's record but still among the largest on record. Vietnam's exports are projected to rise 11 percent to a record 4.2 million tons, a result of a bumper crop and aggressive sales outside Southeast Asia. Pakistan is projected to export a record 2 million tons in 1999, up 11 percent from 1998.

For 2000, Asia's rice exports are projected to drop 7 percent to 16.8 million tons, still the third highest on record; weaker Indian exports account for most of the decrease. India's exports are projected to drop 1.25 million tons to 1.5 million, again a result of weaker imports by Bangladesh.

Exportable supplies held by *non-Asian* major rice exporters are abundant as well. Argentina and Uruguay produced record crops in 1998/99 (harvested in 1999), a result of greater area and record yields. Record plantings and a very high yield drove Australia's 1998/99 crop (harvested in 1999) to a record as well. The 1998/99 U.S. crop (harvested in 1998) was also one of the biggest to date.

In 1999, Argentina's exports are projected at 525,000 tons, down 11 percent from its 1998 record, due solely to weaker Brazilian imports. The U.S. is projected to export 2.75 million tons of rice in 1999, down 13 percent from a year earlier, also due mainly to much lower shipments to Brazil. However, exports are increasing for some countries. Uruguay is projected to export a record 725,000 tons in 1999 and Australia a record 700,000 tons.

For 1999/2000, area contractions and a return to normal yields underlie projections of lower production in Argentina

An International Rice Medley

Many types of rice are traded globally. *Indica* rice accounts for more than 75 percent of total trade. Indica is grown in tropical or warm climates and cooks fluffy and dry. *Japonica* rice, grown in temperate climates, accounts for 10-12 percent of trade. Japonica cooks moist and clingy. In the U.S., southern long grain is indica rice, California medium grain is japonica. *Basmati* and *jasmine* are aromatic rices, together accounting for almost 9 percent of trade. Finally, *glutinous rice*, produced primarily in Southeast Asia, accounts for less than 1 percent of trade. When cooked, glutinous rice loses its shape and becomes very sticky.

	Exports			
Leading exporters	Share of world trade	Primary rice type	Quality	Primary destination
	Percent			
Thailand	25	Indica Jasmine	Low-medium-high High	Asia, Africa, Mideast China, U.S.
Vietnam	17	Indica	Low-medium	Asia, Mideast, Africa
India	12-13	Indica Basmati	Low-medium High	Asia, Africa, Mideast EU, Mideast, U.S.
U.S.	12	Indica Japonica	High High	Latin Am., EU, Mideast, Canada Japan, Turkey, Jordan
China	9-10	Japonica Indica	High Low	Japan, S. Korea Asia, Africa
Pakistan	8	Indica Basmati	Low High	Asia, Africa EU, Mideast, U.S.
Uruguay	3	Indica	High-medium	Brazil, other South America
Australia	3	Japonica	High	Japan, Papua New Guinea
Argentina	2	Indica	High-medium	Brazil, other South America
European Union	1-2	Japonica	High	Mediterranean, Russia
Egypt	1	Japonica	High	E. Med., E. Europe, Balkans
Burma	0.5	Indica	Low	Asia

Export market shares based on 1997-99 shipments. Milled basis. Excludes minor shipments by other exporters.

Economic Research Service, USDA

and Uruguay. Despite significantly smaller crops, both countries are projected to export only slightly less rice in 2000. Australia's crop is projected to drop 4 percent, but exports next year are projected to remain at this year's record level. For the U.S., a record crop and lower prices are behind expectations of higher exports in 2000.

Imports Expected Higher for Middle East, Sub-Saharan Africa

In contrast to weaker imports in Asia and Latin America, imports by the Middle East and Sub-Saharan Africa are expected to rise in 1999 and 2000. A severe drought this year in the Middle East is responsible for expanding imports by Iran.

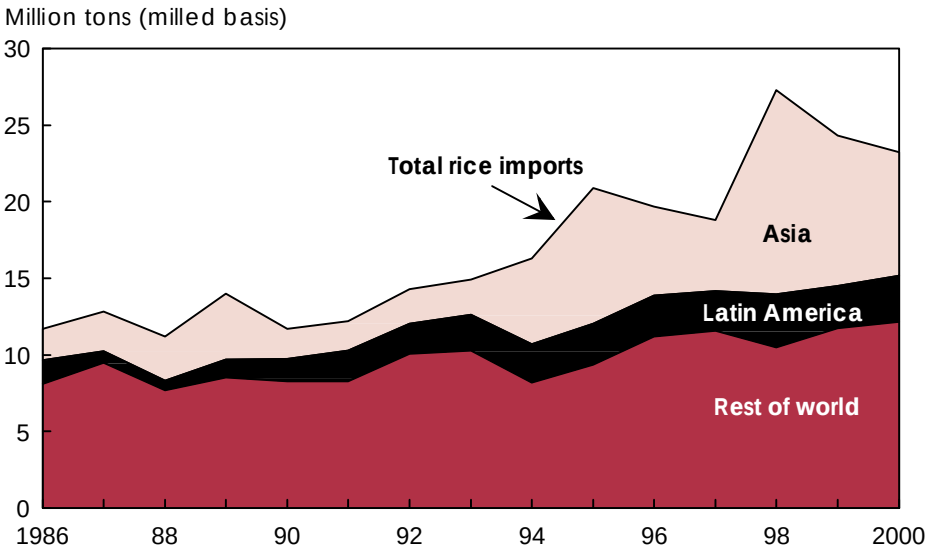
Iran's imports are projected to reach 650,000 tons in 1999—up 150,000 from a year earlier—and to rise to 900,000 tons in 2000. Iran—the world's largest consistent importer of high-quality long grain rice—was a top market for U.S. long grain rice before the 1995 trade embargo. In April 1999, the U.S. lifted the embargo but kept some restrictions on sales, allowing exports on a case-by-case basis with an export license but prohibiting U.S. government assistance of sales through credit guarantees. Iran has not purchased any U.S. rice since lifting of the embargo.

Turkey, whose 1999/2000 crop is forecast down slightly from a year earlier, is projected to import 350,000 tons of rice in 2000, up 40 percent from 1999. Turkey consumes primarily japonica rice, and on average more than half of Turkey's rice consumption is imported. The U.S. is the largest supplier of rice to Turkey; Australia, Egypt, and the European Union are also major suppliers.

West Africa and the Republic of South Africa account for the bulk of Sub-Saharan Africa's rising imports, projected to expand nearly 9 percent in 1999 to a record 4.3 million tons (including food donations), due largely to lower international prices and smaller production. Lower prices not only increase rice demand in commercial markets, they also increase the volume of rice that can be

Commodity Spotlight

Asia Accounts for the Bulk of Reductions in Global Rice Imports Since 1998



1999 and 2000 projected.
Economic Research Service, USDA

purchased and shipped as food aid for a given dollar amount of government program funding. In 2000, Sub-Saharan Africa's imports are projected to drop slightly as production posts a 7-percent increase.

Except for shipments to the Republic of South Africa, nearly all U.S. exports to Sub-Saharan Africa are shipped under food aid programs which typically purchase lower quality rices. The Republic of South Africa was once a top market for U.S. rice, but India has captured a growing share of this expanding market in recent years.

Weaker global trade, lower international prices, and near-record U.S. plantings contributed to the sharp drop in U.S. farm prices since spring, especially for long grain rice, the dominant type grown in the U.S. By late summer, the onset of a record 1999 U.S. rice harvest had weakened prices as well.

Last March, long grain farm prices in the Delta were quoted around $7.75 per cwt. By September, prices had dropped to about $5.50 and are currently about the same or slightly lower. For 1999/2000, the U.S. season-average farm price is projected to drop about a third to $5.50-$6, with the midpoint the lowest since 1986/87.

In 1997/98 and 1998/99, U.S. farm prices were supported largely by record exports of rough (unmilled) rice, mostly long grain shipments to Latin America (the U.S. is the only major exporter of rough, or unmilled, rice). Strong crop recoveries in Latin America, especially in Brazil, have significantly reduced U.S. exports to the region.

Total U.S. rice exports are projected to drop 2 percent in 1999/2000, with a decrease in rough rice exports offsetting an increase in milled rice exports. Rough rice exports—which have expanded in the 1990's—are projected to drop 38 percent to 0.52 million tons (milled basis). Projections of a 14-percent increase in milled rice exports to 2.16 million tons are based on expected lower prices. More competitive U.S. prices will generate additional demand for U.S. rice in world markets, and the lower prices will increase the quantity of rice shipped as food aid. AO

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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.

December

7	*Food Security Assessment**
8	*Tobacco Yearbook**
10	*World Agricultural Supply and Demand Estimates (8:30 a.m.)*
13	*Cotton and Wool Outlook (4 p.m.)***
	*Oil Crops Outlook (4 p.m.)***
	*Rice Outlook (4 p.m.) **
14	*Feed Outlook (9 a.m.)***
	*Wheat Outlook (9 a.m.)***
20	*Agricultural Outlook**
	U.S. Agricultural Trade Update (3 p.m.)
21	*Sugar & Sweeteners**
	*Agricultural Income and Finance**
28	*Livestock, Dairy, and Poultry (4 p.m.)***

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

The 1999 Rice Situation and Outlook Yearbook...

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

Access summary at usda.mannlib.cornell.edu/reports/erssor/field/rcs-bby/
Full report available this month—on the Economic Research Service Website

www.econ.ag.gov

Frederick Crook

The Long-Term Boom in China's Feed Manufacturing Industry

China's rapidly expanding feed manufacturing sector is now second only to the U.S. industry. After growing at an average annual rate of 15 percent since 1990, output of manufactured feed reached 66 million tons in 1998. Feed mills are becoming bigger and more efficient as new, higher capacity mills replace old, small, inefficient ones. New mills often use technology and management skills acquired from foreigners in joint ventures and adapted to local needs.

China's feed manufacturing industry has developed as the needs of its animal producers have evolved. Livestock production, still largely a sideline, with household members feeding mainly farm byproducts to a few animals, is gradually shifting to a full-time occupation, using purchased feedstuffs for a relatively large number of animals. Producer adoption of manufactured feeds allows transition to a larger scale of operation, and also facilitates production of higher-quality meat desired by consumers with rising incomes.

China has emphasized self-sufficiency in grain production. It may continue to resist importing complete feeds, although it is likely to expand imports of nongrain feed ingredients, such as protein meals and feed additives. From 1992 to 1998, soy meal, fishmeal, feed-grade lysine, and methionine were among the largest import items for the feed industry.

Feed Industry Development Reflects Policy Shifts

China did not have a modern, mechanized feed industry when the Communist Party took control of the mainland in 1949. Shortly after feed manufacturing did begin, its development was arrested by a series of disastrous economic policies.

In the mid-1950's, after consolidating their power, the country's Communist leaders collectivized agriculture. Central authorities planned grain production, and Grain Bureaus were established to purchase, mill, and retail grain and grain products, primarily for urban and military use. Large rice mills were constructed in urban areas, increasing the availability of rice bran for feed use. Simple hammer mills to crush feed grains were erected in Guangdong, the province next to Hong Kong on China's southern coast.

But from 1958 through 1975, China endured a period of radical political campaigns that severely disrupted economic growth and development. In the Great Leap Forward (1958-62), communal farms were consolidated into huge entities and cultivated by labor gangs, under the direction of local officials who often knew little about farming. A large portion of the harvest was procured by the government for use in urban areas. This system destroyed farmers' incentives to work and lowered production so much that an estimated 20 to 30 million people died of starvation. Largely because of the paucity of feed, livestock product output plummeted. When animal production revived after the Great Leap Forward, traditional feeding methods and technologies still predominated. Recurrent political upheavals, particularly the Cultural Revolution (1965-75), continued to disrupt agriculture and stifle the feed industry.

Over the decade of 1976 to 1985, China's leaders shifted their basic policy from heavy reliance on central planning, limited involvement with foreign trade, and an emphasis on self-sufficiency, turning instead to greater reliance on markets, more involvement in world trade, and a willingness to adopt ideas, technology, institutions, and equipment from the rest of the world. The resultant changes in rural institutions and in the general economy supported rapid growth of livestock raising, which quickly expanded the demand for manufactured feed.

People's Communes, which had previously exerted rigid control over all aspects of rural life, were disbanded and replaced by township governments and village economic cooperatives. Instead of being made to work in labor gangs on communal fields, farmers were allocated plots of land on long-term lease, granted much greater flexibility in their economic decision-making, and encouraged to maximize their income. These changes at the farm level, besides privatizing crop production, enabled rural families to earn and retain profits from raising livestock.

Marketing systems also changed. Previously, the state was responsible for purchasing most agricultural products. With the reforms, rural and urban markets reopened, giving farmers a source for purchases of feed and an outlet for marketing animal products. After prices were decontrolled as a part of the reforms, producers

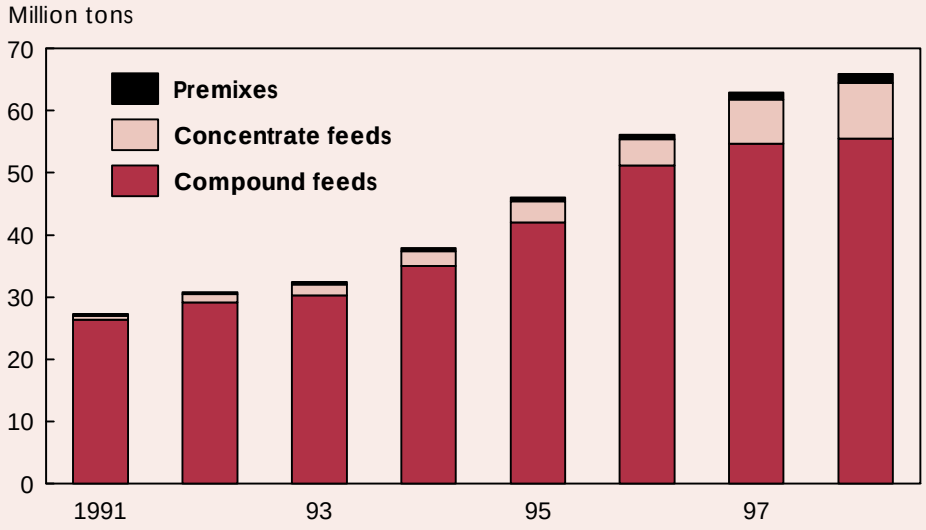
Types of Feed

A nutritionally complete feed includes three components: energy sources (typically coarse grains), protein sources (typically oilseed meals), and additives (vitamins, minerals, and drugs). As classified in China's statistical publications, *compound feed* is a nutritionally complete blend of all components, *concentrate feed* contains protein sources and premixed additives, and *premix* consists of additives combined with an edible binder to make them easier to blend uniformly.

Shares of these feed types changed over the 1990's. Initially, China's feed mills produced compound feeds and little else. In 1998, compound feed production reached a record 55.7 million tons, although its growth rate had slowed. Little concentrate feed was manufactured in the early 1980's, but by 1990 China's feed mills were producing more than half a million tons. Output continued to expand rapidly, reaching 8.9 million tons in 1998.

China began to develop a premix industry in the 1980's. At first it grew very slowly, while the country continued to import many additives that it could not manufacture at a reasonable cost. As manufacturers gained experience and skills, premix output reached 200,000 tons in 1990 and about 1.4 million tons in 1998.

China's Feed Production Grows and Diversifies



Source: Ministry of Agriculture, China, National Feed Industry Office.
Economic Research Service, USDA

were motivated to create and sell higher quality products at a premium.

Moreover, changes in the general economic system supported both a growing demand for animal products and a growing supply of manufactured feed. Rural incomes grew at a moderate rate and urban incomes increased rapidly. Consumers used their higher earnings to purchase more animal products, stimulating demand for processed feed. Meanwhile, removal of trade and travel barriers permitted feed manufacturers to import key ingredients, technology, and equipment. In the more relaxed atmosphere of reform, technicians from China were allowed to travel abroad to become familiar with current feed milling technology, and foreign firms were invited to set up modern feed mills in partnership with Chinese entities.

China's feed industry, practically nonexistent in 1975, grew within two decades to one of the world's largest producers. The central government placed development of the feed industry high on its agenda, with twin goals of augmenting rural incomes and improving the nutrition of China's citizens. The government played an active role, by formulating annual and long-range plans for the feed sector, building and operating thousands of its own feed mills, granting tax breaks and investment funds to other mills, and encouraging foreign firms to invest in joint ventures. Manufactured feed output increased from near zero in 1975 to over 66 million tons in 1998, expanding parallel with rapid increases in pork and poultry output.

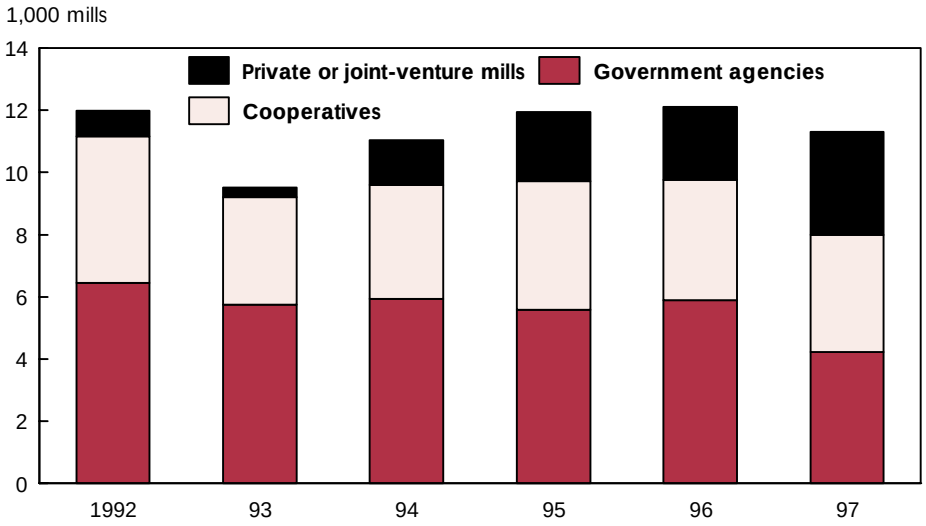
Private Ownership of Feed Mills Expands

Government mills are the most direct form of the state's role in China's feed industry. At the end of the 1980's, an impressive array of government agencies operated over 60 percent of all feed mills. In 1997, despite a rapidly rising proportion of private mills, government agencies still ran 37.3 percent of China's feed mills, according to China's Ministry of Agriculture. (Unfortunately, almost no information is available on output shares by type of mill ownership.)

Within the Ministry of Agriculture, mills are operated primarily by the Departments of State Farms (to supply state farms), Aquaculture (to supply fish farms), and Animal Husbandry. The Ministry of Commerce, specializing in the production of compound feeds, operated about as many mills as the Ministry of Agriculture through the 1980's, but has since fallen behind. Smaller numbers of feed mills are run by the Ministry of Chemicals and the Bureau of Pharmaceuticals (to produce feed additives) and by the Ministry of Mechanization, often in partnership with other entities, to gain practical experience in manufacturing feed milling equipment. The Ministry of Foreign Trade has cooperated with foreign firms in establishing joint venture feed mills, particularly in the 1990's. Military units commonly operate farms and livestock feeding operations to provide food for their own personnel. The number of military feed mills expanded from 2 in 1991 to a peak of 50 in 1996.

Cooperative feed mills were formed in the early 1980's as communes disappeared. These mills in townships and villages, often called Township-Village-Enterprises

Private Ownership of China's Feed Mills Expands



Source: Ministry of Agriculture, China, National Feed Industry Office.
Economic Research Service, USDA

(TVE's), are collectively owned by local farmers. The cooperatives are nominally supervised by officials from the Ministry of Agriculture. But in practice, local officials oversee their operations. Many small, inefficiently run TVE mills succumbed to competitive pressures in the 1980's. The survivors had managers who were adept at organizing efficient, productive units. In 1997, 3,770 TVE and non-TVE cooperative mills comprised 33.4 percent of China's feed mills.

Privately owned and joint-venture mills are increasing as well. Relatively few mills, perhaps 5 percent, were privately owned and managed at the end of the 1980's. By 1997, privately owned mills and public/private joint ventures accounted for 29.3 percent of all mills. The 3,316 mills in this category included 221 domestic private mills and 275 joint ventures between private foreign companies and China's government agencies.

Joint venture and foreign-owned firms—mainly from Thailand, the U.S., Japan, Great Britain, and the regions of Hong Kong and Taiwan—have significantly influenced state and cooperative feed mills by introducing new feed formulas, milling techniques, management methods, and marketing practices. By sharpening competition within the feed sector, foreign firms and joint ventures created an environment in which both government and cooperative mills had strong incentives to become more efficient.

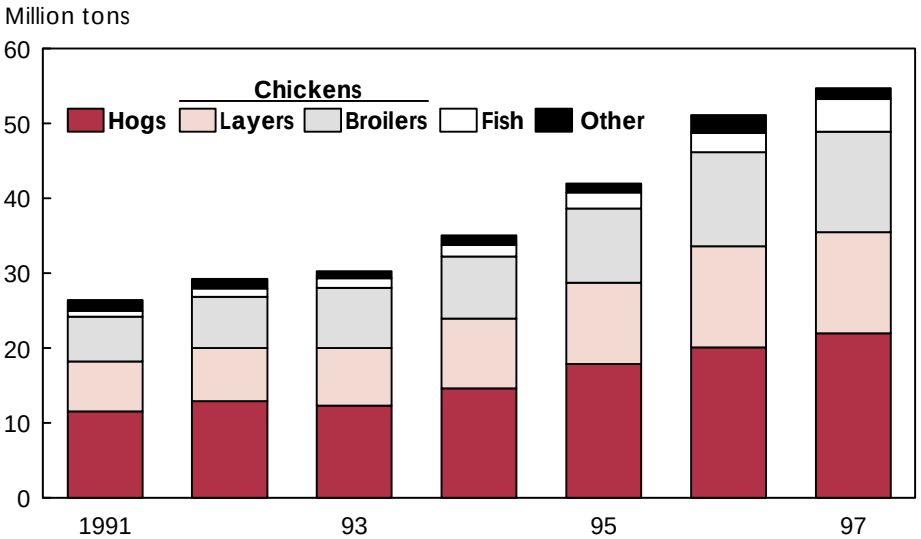
Since China's government intervenes in both domestic and international grain and soybean trade, some joint venture and foreign-owned feed mills have had difficulty finding reliable supplies of raw materials. Because of these uncertainties, and also to earn higher profits by using their specialized knowledge, many foreign-owned and joint-venture feed mills have focused on manufacturing premixed additives. They sell these expensive, high-tech ingredients to local feed mills and large-scale farms, to be blended with oilseed meals and grains.

Feed Mills Target Local Livestock Operations

China is the world's largest *swine* producer. Pork is by far the most popular form of meat and constitutes 67 percent of the country's meat production. In the early 1980's, almost all manufactured feed went to hogs. As poultry and aquaculture production expanded, the share of compound feed mixed for hogs fell to 56 percent in 1990 and 42 percent in 1998. However, the tonnage of hog feed produced is still increasing. In 1998, compound feeds manufactured for hogs reached a record 23.4 million tons. Feed mills typically are situated in animal producing areas because China's transportation and related infrastructure are poor. Hog feed manufacturing, for instance, is concentrated in the Yangtze River basin.

China's *poultry* industry expanded rapidly in the late 1980's and 1990's. In response, mills stepped up production of compound feed for egg layers and for broilers. Total

Most Compound Feed in China Is Fed to Hogs and Chickens



Source: Ministry of Agriculture, China, National Feed Industry Office.
Economic Research Service, USDA

feed manufacturing for poultry increased from 10.5 million tons in 1990 to 26.6 million tons in 1998, and from a 40-percent share of compound feed in 1990 to a 48-percent share in 1998. Mills making feed for layers are concentrated in China's northern plains, while those specializing in broiler feed production are concentrated in coastal areas.

China has the world's largest freshwater *aquaculture* industry, which absorbed 6.6 percent of the country's total compound feed output in 1998. Fish feed production was 3.7 million tons in 1998, having grown at an average annual rate of 18 percent since 1990. Fish feed manufacture and (to a lesser extent) aquaculture are concentrated in the Yangtze River Delta.

Small quantities of compound feed go to *ruminant animals*. Dairy cows consume around 3 percent of China's compound feed. Beef cattle, sheep, and goats mostly graze, and consume very little manufactured feed.

Feed is marketed primarily through local stores, although some mills also sell directly to large livestock operations. Differences in ingredient composition across brands are minor, and feed stores carry multiple brands. Although feed manufacturers own no retail outlets, some large feed mills conduct training seminars for farmers, pointing out benefits of feeding a balanced, nutritious diet. The staff of local feed stores, supplemented by people running mill seminars, have largely replaced government farm extension agents in explaining feeding technology.

Many mills use sales representatives to broker sales contracts with local feed stores, and sometimes with major livestock producers, offering a comprehensive service plan with credit terms. Because of recent, steep declines in prices for animal products, collecting feed payments is a growing problem. Since most local feed stores and most farmers lack access to bank credit, customers facing financial difficulties are often allowed an extended payment period.

The two leading nationally distributed feed brands are CP (a joint venture with a Thai feed manufacturer) and the Hope Group (a domestic company owning many mills). The combined market share of these two companies, however, is still small—likely below 15 percent in 1998.

Joint-venture and foreign-owned companies have complained about pirated or falsified labels. Shoddy counterfeits damage mills' reputations as well as sales. A set of Feed and Feed Additives Regulations that went into effect on June 22, 1999 should help the industry weed out substandard products and falsified labels.

China to Import More Coarse Grains & Oilseeds

In 1998 and 1999, repercussions of the Asian financial crisis reduced demand for China's exports abroad. Meanwhile, cutbacks in the government bureaucracy and ongoing privatization of the still predominantly state-run manufacturing sector worsened underemployment and unemployment at home. Consumer uncertainty contributed further to a drop in domestic demand, and prices fell for many products. In particular, meat prices fell—especially for pork, which cost about half as much in April 1999 as a year earlier. Over the first 6 months of 1999, China's total output of compound feed was an estimated 10-percent lower than in the first half of 1998, due almost entirely to a sharp decline in hog feed production.

Despite these short-term setbacks, the medium- and long-term outlooks for China's feed manufacturing sector remain bright, as do prospects for greater U.S. exports of feed ingredients. Several factors underlie this optimism.

- China's economy, hard hit by the Asian economic crisis, now appears to be in the early stages of recovery.
- China's low per capita consumption of animal products, even compared to countries with similar average income levels, leaves ample room for growth in demand, and for a parallel expansion of its feed sector.
- China's feed manufacturers are sophisticated. Alone or in joint ventures with foreign firms, government and private mills already produce a wide variety of feed types and feed ingredients.
- The newly implemented Feed and Feed Additives Regulations, which emphasize labeling, grades and standards, and orderly marketing, will help smooth the industry's expansion by weeding out substandard products and falsified labels.
- The feed industry has the potential to expand rapidly, because China manufactures—and even exports—feed milling machinery.

For U.S. exporters of oilseeds, oilseed meals, and feed additives, medium- and long-term prospects remain positive as China's livestock and feed sectors prepare to respond to growing consumer demand. Expansion of its feed manufacturing sector will require China to import more oilseed meals and more oilseeds for crushing. China's meal production from domestically grown soybeans is currently about 6 million tons, far short of the country's estimated demand for 20 to 30 million tons of oilseed meals annually over the next decade. China also produces about 1.7 million tons of meal from rapeseed and cottonseed, but toxic components naturally present in these products limit their use for feeding animals.

China may become more willing to import coarse grains too, despite its continuing reluctance to import bagged feed. The country is now eliminating price supports for low-quality grains, having discovered the enormous cost of storing surpluses. China's recent exports of feed-quality grain represent the disposal of old, deteriorating grain originally purchased for China's food security stockpiles, rather than feed grain production in excess of domestic demand. AO

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Watch for it on the Economic Research Service Website **www.econ.ag.gov**

Jack Harrison

Demand for Yield & Revenue Insurance: Factoring In Risk, Income & Cost

Rapid expansion has occurred in the number of federally backed insurance products offered to farmers since the 1996 farm legislation. Although federally subsidized insurance has been a part of the government's farm program for over a half century—yield-based insurance was available as early as 1938 for selected crops in selected locations—crop insurance was not widely accepted by farmers until recently. Prior to 1996, commodity programs shielded agriculture from some of the risks stemming from weather and markets, lessening the need for crop insurance. Some researchers also cite the frequent use of Federal ad hoc disaster assistance payments as a disincentive to purchasing crop insurance (*AO* August 1999).

However, the demand for crop insurance increased in the last few years due to higher Federal insurance premium subsidies, as well as the introduction of several new revenue insurance products that increase farmers' choices and that some operators find more attractive than crop-yield insurance alone. The array of insurance products currently available to producers is growing, and their use as a risk management tool is widening.

In Iowa, for example, three revenue insurance products—Crop Revenue Coverage (CRC), Income Protection (IP), and Revenue Assurance (RA)—were first offered in 1996-97. Also available were the more traditional yield-based products—Multiple Peril Crop Insurance (MPCI), which includes a minimum catastrophic coverage (CAT), and the Group Risk Plan (GRP). (See page 18 for descriptions of insurance products.) After just 3 years, acreage covered under the revenue insurance products accounts for more than half of insured acres for corn and soybeans in Iowa.

In 1999, revenue insurance choices for U.S. farmers continue to expand with the introduction of two new products. Group Risk Income Protection (GRIP) adds a revenue component to GRP area-yield insurance, and Adjusted Gross Revenue (AGR) offers coverage on a whole-farm rather than crop-by-crop basis (*AO* May 1999).

At issue with regard to farmers' participation in insurance markets are a number of questions. What factors are driving farmers toward these new risk management tools? How do farmers decide among different insurance products? Can the increase in farmers' demand for insurance, especially for the new revenue insurance products, be sustained? Addressing such questions can be a key step in anticipating the demand for yield and revenue insurance products and the potential for growth in a more market-oriented policy environment.

USDA's Economic Research Service (ERS) has examined the demand for yield and revenue insurance products among corn and soybean producers who purchased insurance in Iowa, where a range of insurance products was offered to farmers in 1997. Using 1997 data collected by USDA's Risk Management Agency (RMA), the study analyzed the role of farmers' risk characteristics, farm income level, and the cost of insurance in making decisions on insurance purchases. This is the first attempt to analyze farmers' demand for crop and revenue insurance in the post-1996 Farm Act policy environment, in which farmers are offered multiple insurance products.

The Risk Management Agency maintains records of all individual farmers who buy federally backed crop-yield or revenue insurance from private insurance companies. About 80,000 insurance records contain 10 years of yield history and

This article is based on a forthcoming ERS report and completes *Agricultural Outlook's* 1999 series on risk management.

About the Demand Model

A Generalized Polytomous Logit (GPL) model is specified and estimated to accommodate the demand for crop insurance where the choice of an insurance product is *discrete*—i.e., farmers make a choice of one distinct product from among several alternative products available to them. The GPL model specification was designed so that all choices for the various insurance products are treated equally without assigning ranks. Further, the model estimation accommodates all choices to be estimated *simultaneously*, allowing every combination of the explanatory variables to be taken into consideration concurrently.

Insurance, in Short

Insurance contracts can be categorized into two types of insurance products: standard yield-based crop insurance and revenue insurance products (*AO* April 1999). Yield insurance products available in 1997 include *Multiple Peril Crop Insurance* (*MPCI*) and *Group Risk Plan* (*GRP*), while revenue insurance products include *Income Protection* (*IP*), *Revenue Assurance* (*RA*), and *Crop Revenue Coverage* (*CRC*).

MPCI pays indemnities if yield falls below a guaranteed level—determined by a farmer's average historical yield—but offers no price protection. MPCI provides minimum catastrophic coverage (CAT), with premiums fully subsidized by the government, and optional higher (or "buy-up") levels of coverage with partially subsidized premiums.

GRP is tied to county yield rather than to individual farm yield. GRP policies pay indemnities when the county average yield drops below a threshold or guaranteed level, regardless of yield of the individual farmer. GRP buyers can insure up to 90 percent of the expected county yield at up to 150 percent of the expected price.

IP, RA, and CRC protect against lost revenue caused by low yields, low prices, or a combination of both. *IP* and *RA* protect farmers against reductions in gross income when either prices or yields decrease during the crop year from early-season expectations. Indemnity amounts are determined by individual farm yields and harvest-time futures prices. IP offers a single insurance contract per commodity enterprise for the farm per county—e.g., within a county, IP coverage combines all corn fields which a farmer owns or from which at least a share of corn crop earnings is due. RA—available only in selected counties and for selected crops around the nation—allows both basic and an optional field-specific coverage (multiple insurance contracts based on ownership, farming practices, and section of the farm's acreage).

CRC with replacement-coverage protection (RCP) provides partial protection against both yield and price shortfalls, paying an indemnity if a producer's gross revenue falls below a predetermined guarantee level. Since CRC uses the higher of the planting-time price for the harvest futures contract or the actual futures contract quote at harvest in setting the guarantee, the producer's revenue guarantee may actually increase over the season because CRC with RCP allows producers to purchase "replacement" bushels if yields are low and prices increase during the season. Recently, farmers in Iowa were offered RA contracts with a harvest price option that is very similar to CRC except that it imposes no limits on price increases at harvest-time.

information on coverage under four insurance plans: MPCI, RA, and CRC at coverage levels of 50 through 75 percent, and GRP at up to 90 percent. IP was not included in the analysis for lack of sufficient data; only 50 IP corn and soybeans policies were sold in Iowa in 1997. GRIP and AGR did not exist in 1997.

To analyze demand for crop insurance, ERS developed a model based on three explanatory factors that influence a farm operator's decision to buy an insurance contract (type of product and extent of coverage):

- *Risk level* measures the producer's level of yield or revenue risk. Yield risk—based on 10 years of yield records—is calculated as the probability of yield falling below the insurance product's guaranteed level. Similarly, revenue risk—based on 10 years of yield records and corresponding average marketing-year prices—is calculated as the probability of revenue falling below the guaranteed level. The probability measure is based on both the mean and variance of yield or revenue—an indicator of volatility for an individual farm.
- *Level of income* or *size of operation* is an indication of the amount of revenue at risk, along with the operator's ability to pay for insurance or to self-insure against loss. Level of income is defined as the cumulative sum of savings over the past 10 years, using gross revenue and an assumed savings rate of 10 percent. This variable is directly proportional to the size of operation.
- *Cost of insurance*, captured by premium per dollar of liability (maximum potential indemnity or value of the insurance contract if the producer loses an entire crop), is total premium (including subsidy) divided by total liability.

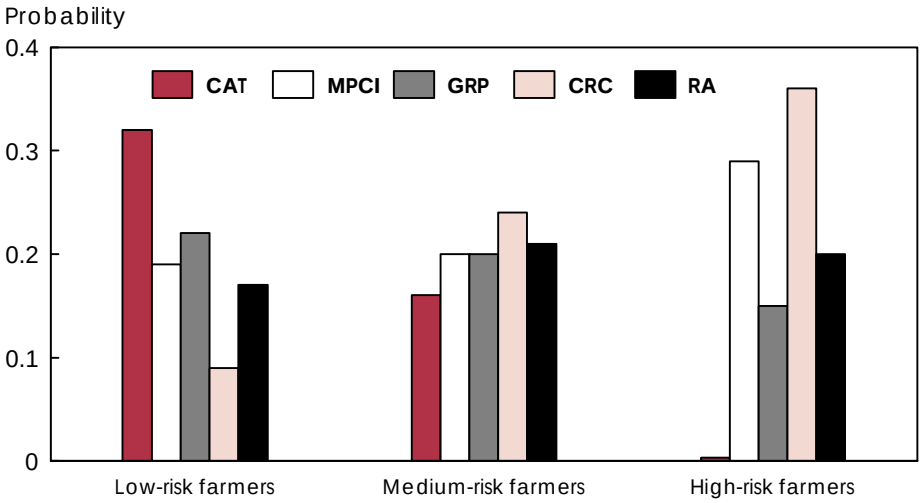
These three factors are categorized into three ranges—low, medium, and high. The model then determines how these factors influence the choice of alternative yield and revenue insurance products.

The results reveal a strong relationship between *risk level* and choice of insurance contract. Farm operators with a higher risk of yield or revenue falling below the guaranteed level are more likely than low-risk farmers to have chosen higher coverage contracts. High-risk farmers, compared with low-risk farmers, are more likely to prefer revenue insurance (CRC and RA) over yield insurance (MPCI). If given a choice between only GRP and MPCI, high-risk farmers are more likely to prefer MPCI, which is based on individual yield history rather than county average yield.

Another way to see how risk and other factors relate to product choice is to calculate odds ratios—the odds of choosing one insurance product versus another. Comparing the odds of choosing CRC, RA, and GRP relative to MPCI for farmers with different risk levels indicates that high-risk farmers are nearly twice as likely as low-risk farmers to choose CRC or RA over MPCI. In general, analysis of the odds ratios indicates that high-risk farmers prefer revenue insurance while low-risk farmers prefer yield insurance.

The link between risk level and choice of insurance product was also explored by calculating the probability of choosing a

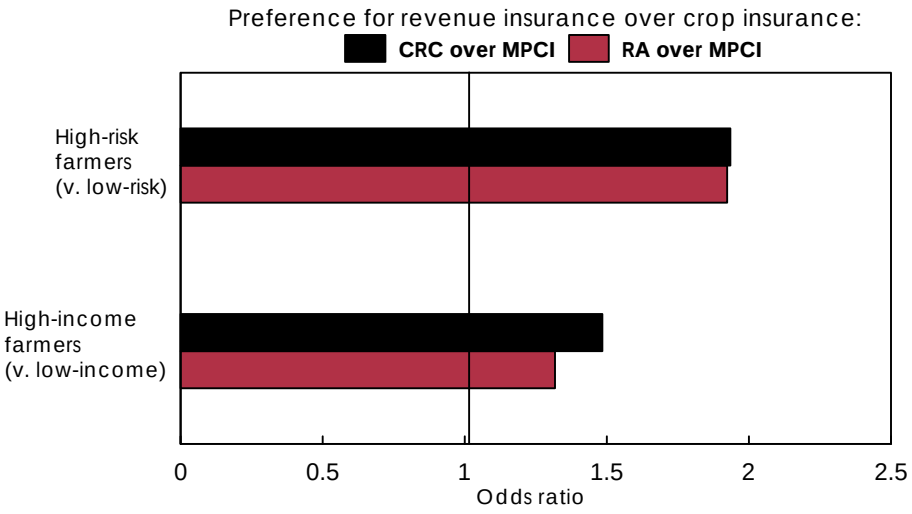
Risk Level Affects Choice of Insurance Product



Probability indicates the likelihood of farmers choosing a particular insurance product. For example, out of 100 low-risk farmers, 32 are likely to choose CAT and another 19 to choose MPCI above the CAT level.
Crop-yield insurance: CAT = Catastrophic (minimum) crop-yield coverage; MPCI = Multi-peril crop insurance above the CAT level; GRP = Group risk protection.
Revenue insurance: CRC = Crop revenue coverage; RA = Revenue assurance.

Economic Research Service, USDA

Farmers' Level of Risk and Income Affects Likelihood of Choosing Revenue Insurance Over Crop Insurance



Odds ratio = Probability of high-income-or high-risk-farmers choosing CRC or RA over MPCI, divided by probability of low-income-or low-risk-farmers choosing CRC or RA over MPCI. When odds ratio equals 1, probabilities (numerator and denominator) are the same.
CRC=Crop revenue coverage; RA=Revenue assurance; MPCI=Multi-peril crop insurance.

Economic Research Service, USDA

specific insurance product given the farmers' risk level. The computed probabilities further strengthen the findings that high-risk farmers are more likely to choose revenue insurance contracts (CRC or RA), while low-risk farmers are more likely to choose yield contracts (GRP, MPCI, or CAT). High-risk farmers, who have a greater expectation of collecting indemnities, select contracts that would provide greater indemnities in the event of loss and are apparently willing to pay a higher premium to obtain those contracts.

Level of income also influences the type of insurance product a farmer purchases, as well as level of coverage. The results imply that, within the same risk class, high-income farmers are more likely to prefer revenue insurance over yield insurance. For example, the odds of choosing CRC over MPCI by high-income farmers relative to low-income farmers is 1.5, indicating that, within the same risk category, high-income farmers are 1.5 times as likely as low-income farmers to choose CRC over MPCI. Higher income farmers showed a preference for greater coverage, while lower income farmers showed a preference for lower coverage levels, contrary to the initial hypothesis that high-income farmers who could afford to self-insure against some risk loss would purchase less insurance.

Results also indicate that *cost of insurance* affects the decision to buy and the choice of insurance contract (regardless of risk class or income level), which underscores the importance of premium subsidies. Under the current insurance program, nearly 40 percent of producer premiums on "buy-up" coverage are subsidized. Since the subsidy is a large part of the premium, changes in Federal subsidies are likely to significantly affect the extent of farmers' use of crop insurance.

Study results suggest that by incorporating risk and other characteristics associated with farmers who buy different contracts, it may be possible to structure insurance rates to more closely reflect farmers' risk profiles. Even though the analysis is limited to Iowa corn and soybean producers, the findings provide useful insights into preferences of farmers at various risk levels in choosing among alternative insurance contracts, and the substitutability among contracts, and may facilitate making the agricultural insurance industry more self-sustaining. **AO**

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Special Article

Agriculture in Poland & Hungary: Preparing for EU Accession

Almost from the day the Berlin Wall fell, serious discussion has ensued about eventual enlargement of the European Union (EU) to include at least some of the Central and East European countries (CEE's). Prospects for EU enlargement drew closer to reality in 1997, when the EU Commission agreed to open formal negotiations with five of the CEE's—Poland, Hungary, the Czech Republic, Slovenia, and Estonia. In the Commission's view, these five had made the most progress toward meeting the requirements of membership.

Formal negotiations between the EU and the five first-tier CEE's began in March 1998. Official statements by both sides continue to identify 2002 as the target date for accession. Unofficial communications, however, suggest that enlargement is not likely to occur before 2006, and discussions of a transition period have surfaced. Nevertheless, the question is still when, not whether, these countries will join.

In October 1999, the Commission recommended that the EU begin negotiations with five more CEE countries: Bulgaria, Romania, Slovakia, Latvia, and Lithuania. No target date has been set for their accession, and all of them must make substantially more progress in several areas before they can be seriously considered for membership. The EU Commission has noted shortcomings not only in agriculture, but also in the financial and energy sectors.

Potential benefits of EU accession for the CEE's are substantial. Their economies will benefit from the inflow of structural funds (e.g., for developing institutions and infrastructure) and rural development funds from the EU budget. EU membership will also help attract foreign investment. CEE farmers will benefit from the price and income supports enjoyed by EU-15 farmers. For the EU, a primary benefit is a large, integrated European market with 100 million new consumers. The EU also has political and strategic reasons for seeking the accession of its CEE neighbors. This motivation has strengthened as a result of the Kosovo crisis. The EU hopes that enlargement will bring greater prosperity, and with it more stability, to the continent and help solidify democratic institutions.

But both sides have become increasingly aware of the costs as well. Accession will require immediate adoption of all EU legislation. In the food and agricultural sectors, CEE producers, processors, and policy makers are just beginning to realize the potential costs of conforming to the entire body of EU regulations. Many producers, especially in Poland, are increasingly fearful that they will not be able to compete with high-quality EU products in a single market, particularly when the costs of adopting EU regulations raise farmers' production costs. Accession will also mean substantially higher food prices for consumers whose average income is less than half the EU average. CEE meat prices, in particular, could rise substantially,

Nancy J. Cochrane

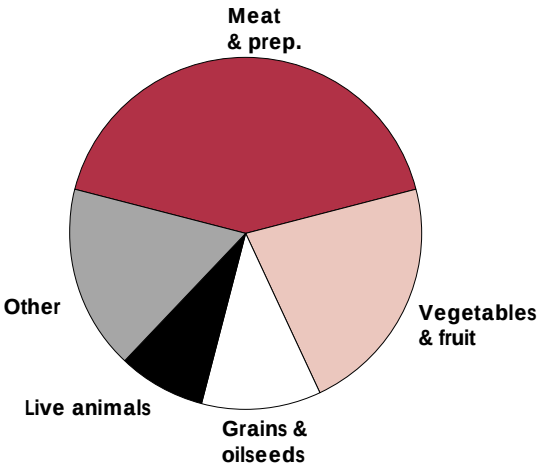
since current CEE meat prices are as much as 60 percent below those of the EU.

The EU, in turn, is concerned about pressures from additional commodity surpluses and the potential cost of providing income support to small, inefficient CEE farmers. Recent analysis by USDA's Economic Research Service (ERS) concluded that, under the current Common Agricultural Policy (CAP) modified by Agenda 2000, enlargement could bring additional surpluses of rye, beef, and pork, and that as a result the EU could have difficulty meeting its commitment to the WTO on limiting export subsidies for beef and pork.

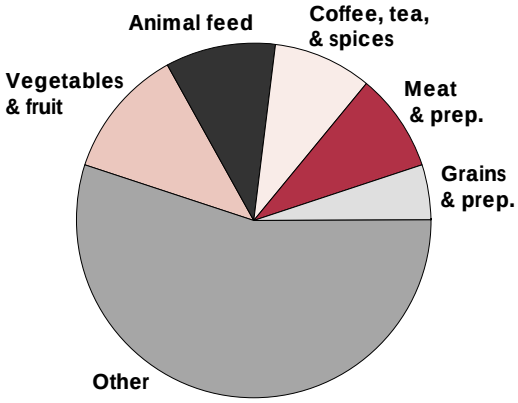
At the same time, accession will bring benefits to the nonagricultural sectors. The EU is providing substantial assistance in all sectors to help the CEE's prepare for accession, much of it directed toward infrastructure improvement. This assistance, combined with additional investment that is likely to come as the CEE's prepare for accession, can generate alternative off-farm employment for producers who cannot compete in an enlarged EU (surplus labor has been a key impediment to greater efficiency in CEE agriculture). Accession may also lead to a rise in land prices, but a lower cost of capital. All of these shifts could lead to dramatic changes in CEE production practices and thus accelerate changes that are required if the countries are to complete the restructuring process.

This article concentrates on the implications of EU accession for agriculture and food production in the CEE's. The principal focus here is on Poland and Hungary, since these are the largest agricultural producers of the five first-tier countries. However, many of the conclusions hold true for the other acceding coun-

Hungary Is a Net Exporter of Agricultural Products to the EU. . .

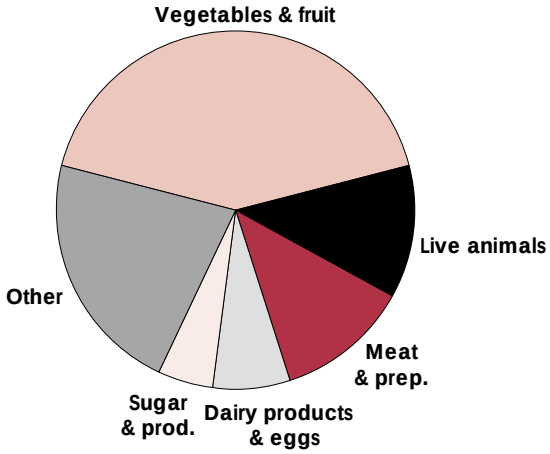


1997 exports = $1.1 billion

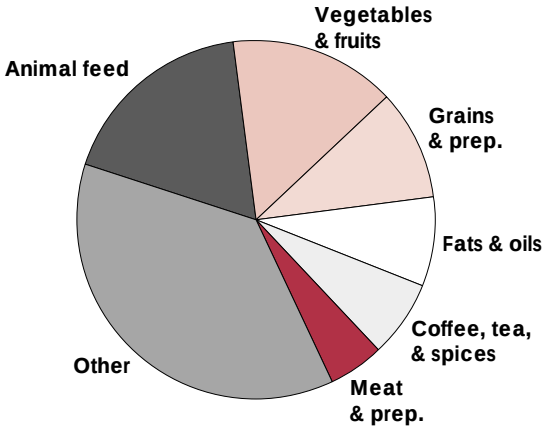


1997 imports = $0.5 billion

. . .While Poland is a Net Importer



1997 exports = $1.2 billion



1997 imports = $1.8 billion

Source: United Nations.
Economic Research Service, USDA

tries. All the CEE's face the challenge of aligning their institutions with those of the EU, and all have a long way to go.

For Poland, the challenges are greater because of its fragmented farm structure—average farm size is still just 8 hectares, up from 6 hectares in 1990 (1 hectare = 2.471 acres). But Hungarian producers, too, are beginning to worry about the costs of accession.

Slow Progress Toward Institutional & Regulatory Reform

Before any country can be accepted for membership, it must meet the following criteria:

- develop stable institutions to guarantee democracy, rules of law, and respect for human rights;
- develop an efficient market economy capable of competing on the integrated market; and
- demonstrate the ability to meet obligations of EU membership, including implementation of political, economic and monetary goals (e.g., the full range of the EU CAP and alignment of monetary policies with those of the EU.)

Nearly all CEE's applying for membership have met the first criterion. The five first-tier countries have made substantial progress towards the second, but have considerable work to do before meeting the third.

EU laws applying to agriculture and food production number 20,000, comprising 80,000 pages. Working groups in the agricultural ministries of all the CEE's are poring over these 80,000 pages and rewriting their own legislation to conform to EU laws. All the CEE's have made considerable progress toward

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harmonization of laws; however, building institutions to implement the laws and regulations is a much bigger challenge.

In general, Hungary is considered to be more prepared for accession than Poland; in fact, the Hungarians have expressed fears that their accession may be held up by Poland's lagging progress. But the EU Commission points out some areas that Hungary still needs to address. Areas of concern for both Hungary and Poland include the following:

Rural development policies. Both Poland and Hungary have large economic disparities among regions, and both still need to improve infrastructure and generate nonagricultural employment. In Poland, where 28 percent of the labor force is in agriculture and could be eligible for compensation payments from EU coffers under the current CAP, the EU is eager to see accelerated efforts to move some labor out of agriculture.

Window on the Past

Excerpts from USDA publications

Enlarging the European Community

The European Community (EC) and the three applicant countries—Greece, Spain, and Portugal—are a major market for U.S. agricultural exports. . . . The United States has a keen interest in the accession negotiations because membership of Greece, Spain, and Portugal in the EC is likely to alter U.S. agricultural trade patterns.

The decision by the three to apply for membership in the EC was largely a political one concerned with perpetuating a democratic form of government. Political decisions are not without economic ramifications, however, and the practical problems of bringing the three countries into full EC membership are numerous. . . .

The crucial point to emphasize is that membership of Greece, Spain, and Portugal will do little towards eliminating current surpluses in the EC-9 and will likely create surpluses of other commodities. . . . Production incentives under the EC's Common Agricultural Policy (CAP) likely would stimulate production in the three applicant countries. EC Commission officials are concerned that without major changes in the CAP, surplus production will become considerably greater under enlargement.

Agricultural Outlook, November 1979

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The EU is already providing substantial pre-accession funds to address these shortcomings, and even more money would come after accession through "Structural Funds" and rural development assistance. But the EU is concerned about a lack of coordination in developing and implementing rural policies: neither Poland nor Hungary has the administrative capacity at the regional level to administer these funds. The EU has rejected several of Poland's proposals for use of pre-accession funds, contending that the proposals were not well developed. Commission reports complain that in Hungary, nine different ministries are involved in rural policy.

Sanitary and phytosanitary regulations. Both countries have made considerable progress in harmonizing their standards and regulations with those of the EU. However, they lack the administrative structures to enforce them. Poland's Ministry of Agriculture, for example, has no staff carrying out inspections at meat plants; inspections are done by plant personnel.

The EU is particularly concerned about enforcement of sanitary and phytosanitary standards at border crossings with third countries. Facilities at border inspection posts are considered to be inadequate, and border checks are limited to controls on certificates and other documents. Actual physical inspections are done at destination, which falls short of compliance with EU import rules with third countries.

Animal welfare regulations. CEE livestock producers would be subject to a complex array of regulations involving animal welfare. Among these are regulations governing the number of hens that can be kept in a cage, limiting the number of hours animals can spend in transport, and prohibiting the tethering of cattle. Larger livestock producers are becoming more aware of the eventual need to comply with EU regulations on animal welfare, and some are making efforts to bring their operations up to EU standards. But animal welfare legislation has not yet been enacted in any of the CEE's.

Market support policies. The EU Commission has pointed out that price support schemes for pork in both countries have yet to be harmonized to EU standards. The CEE's must introduce supply control instruments such as dairy quotas and set-aside requirements in the field crops sector.

The EU has expressed serious concern about Poland's Agricultural Market Agency (AMA), which carries out intervention purchasing and administers minimum prices for wheat, rye and dairy products. But activities of the AMA go well beyond the narrower role of intervention agencies under the CAP. In addition to intervention, AMA's responsibilities include state reserve procurement, providing financing to companies purchasing grain at a minimum price, and commercial activities. It also has considerably more flexibility than EU intervention agencies in deciding when intervention should be activated. Most of these AMA activities need to be privatized in order to harmonize with the intervention and market information role of counterpart agencies in the EU.

Land markets. Most land is privately owned in Poland, and owners have clear title to their land—an improvement over many of its neighbors. However, Poland's land markets remain undeveloped. The EU Commission cites the need for a more efficient system of contracts to transfer ownership; an easy-to-apply system for using land as collateral; low-cost procedures for resolving disputes; and an easily accessible information system of land transactions, prices, and ownership.

Impediments to a fully functioning land market are even more serious in Hungary. Although most of Hungary's land went into private ownership in the early 1990's, many landowners are without clear title. Moreover, only individuals are allowed to own land; there is a prohibition on corporate land ownership, and corporations are unable to use land as collateral. Banks are reluctant to accept land as collateral, since they could be prevented from taking ownership of the land.

Statistical reporting. The EU also criticized Polish statistics, pointing to the need to update lists of farms from which samples can be drawn and the need for better data on purchasing and distribution. Poland may be unable to get EU structural funds if it fails to prepare sound regional statistics. In Hungary, regional statistics regarding unemployment and poverty need to be strengthened. Better market price quotation systems are needed in both countries.

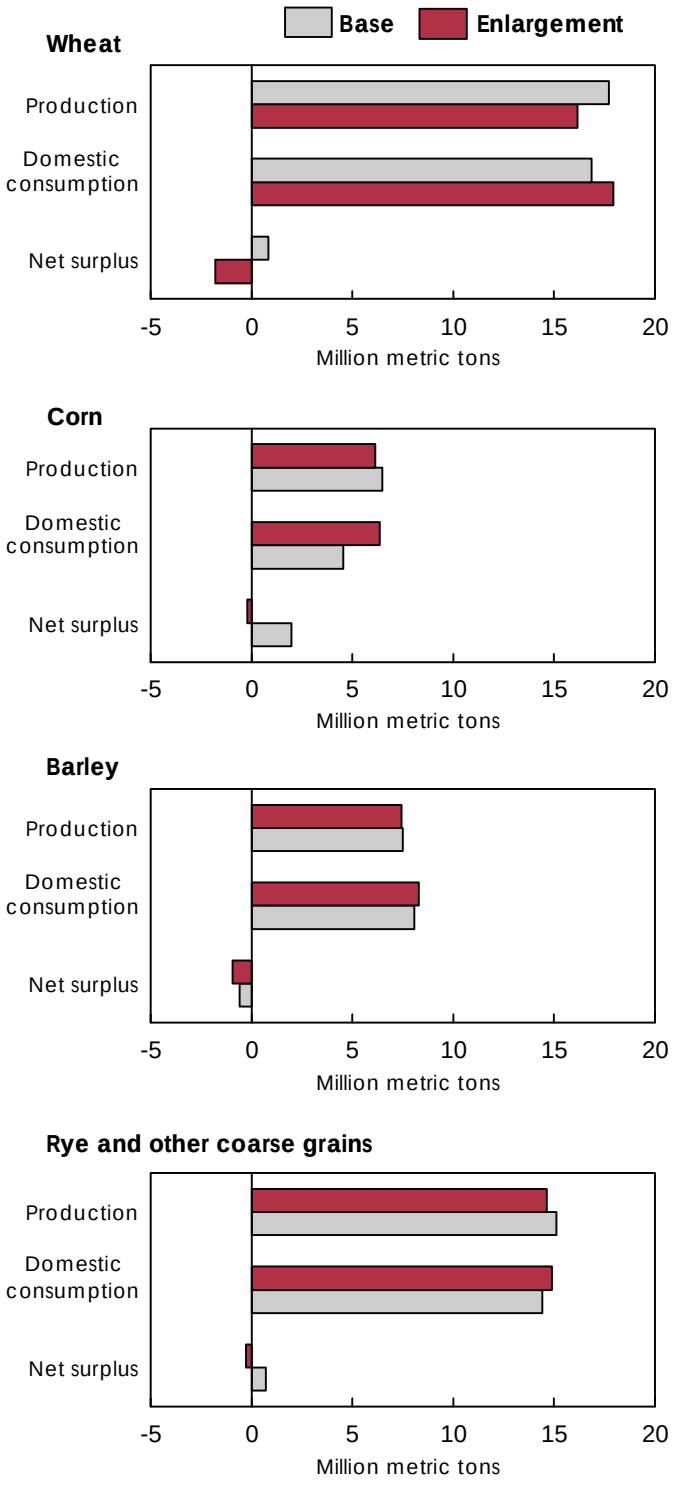
Can CEE Ag & Food Industries Compete in an Enlarged EU?

The ability of CEE agricultural and food producers to compete in an enlarged EU is a serious concern on both sides. CEE farmers and processors worry that a flood of higher quality EU products could drive many of them out of business. EU policymakers worry about budget implications of extending CAP protection to all CEE producers.

Of the five countries slated for earliest accession, only Hungary is a net exporter of total agricultural products to the EU. But both Hungary and Poland are net exporters of specific commodities to the EU—live animals (mostly cattle), meat and meat products, dairy products, and fruits and vegetables. Hungary is a net exporter of grain to the EU, whereas Poland imports grain. Both are net importers of feeds and processed foods.

Agricultural trade is an intensifying bone of contention between the EU and the CEE's. All CEE's are party to EU Association Agreements, signed in the early 1990's, which call for reduced tariffs on a wide range of products. The agreements seem to be working well for nonagricultural sectors, but implementation for agricultural products has been fraught with controversy. Most recently, Poland, upset by subsidized pork exports from the EU, retaliated by canceling most tariff preferences for agricultural products exported by the EU. Such trade disputes serve to illustrate how difficult final accession negotiations on agriculture will be.

EU Enlargement Would Eliminate Wheat Surplus for Poland, Hungary, and Czech Republic



Projections for 2005/06 under EU enlargement and Agenda 2000.

Economic Research Service, USDA

Special Article

The EU's Agricultural Policy Instruments

The basic objectives of the EU Common Agricultural Policy (CAP) are to increase agricultural productivity, ensure a fair standard of living for agricultural workers, stabilized markets, guarantee regular supplies of agricultural products, and ensure reasonable prices to consumers.

The current system is result of a reform package implemented in 1993/94, the EU's commitments in the Uruguay Round Agreement on Agriculture (URAA), and the beginnings of EU Agenda 2000. The 1992 reforms reduced support prices, implemented a system of direct compensation payments, and introduced new supply control measures. Changes implemented in 1995 as part of the EU's URAA commitments include the conversion of variable import levies to tariffs.

The EU's Agenda 2000, finalized in March 1999, builds on the 1992 reforms with further reductions in support prices for certain commodities, while partially compensating producers for the price declines through direct payments.

The principal policy instruments now in effect are:

Price support: The CAP is a price management system that supports the income of EU farmers in two ways. First, authorities buy the surplus supply of products when market prices threaten to fall below agreed minimum (intervention) prices. Second, the CAP applies tariffs at the borders of the EU so that imports of most price-supported commodities cannot be sold into the EU below the desired internal market price set by EU authorities. Methods used in managing agricultural prices in the EU include *intervention prices* and *export subsidies*.

Intervention price: A market floor price (intervention price) triggers market intervention mechanisms to support market prices. Farmers are able to sell their products to the intervention authorities at the annually adjusted intervention price. Products must meet minimum quality requirements to be accepted into intervention. The surplus commodities are then put into EU storage facilities.

Export subsidies (restitutions): When world market prices are below the EU market price, exporters are paid a subsidy to enable them to export competitively to the world market. If world market prices are above EU internal market prices, an export tax may be imposed to prevent the outflow of EU product. Such taxes are usually adjusted weekly or biweekly in line with fluctuation of world market prices. EU commitments under the URAA set limits on the value and quantity of export subsidies.

Prices for major commodities such as grains, dairy products, beef and veal, and sugar are dependent on the price support system. Other mechanisms, such as subsidies to assist with storage of surpluses, and consumer subsidies paid to encourage domestic consumption of products like butter and skim milk powder, supplement these basic underpinnings of the CAP to strengthen domestic prices. Some items, most often fruits and vegetables, are withdrawn from the market by producer organizations when market prices fall to specified withdrawal prices.

Direct payments (compensation payments): In addition to price support mechanisms, payments may be made directly to producers to help support their incomes. Compensatory payments were instituted as part of the 1992 reform package to compensate grain and oilseed producers for price support cuts. The payments, although established on a per-ton basis, are made to farmers as a per-hectare payment, based on average historical yield in the region where they farm.

Supply control: The 1992 reforms also instituted a system of supply control through a mandatory paid set-aside program. To be eligible for compensatory payments, producers of grains, oilseeds, or protein crops must remove a specified percentage of their area from production. Farmers are paid a set-aside payment for area removed from production under this program. Producers with an area planted to these crops sufficient to produce no more than 92 tons of grain per year are classified as small producers and exempted from the set-aside requirement. Supply control measures are also in effect for the dairy and sugar sectors.

Agenda 2000 reforms will continue to shift the EU away from price supports toward direct payments to producers. Key provisions of Agenda 2000 are:

- a 15-percent reduction in support prices of grains, phased in over 2 years, to be partially offset by increases in direct payments;
- a 10-percent minimum set-aside for crop land for 2000-06; and
- a 20-percent reduction in support price for beef, to be phased in over 3 years and offset by direct payments.

For more details on Agenda 2000, see *AO* May 1999 and October 1999.

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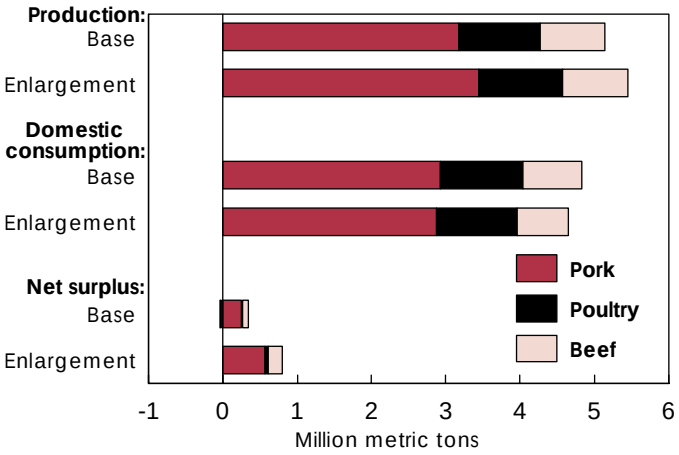
ERS recently analyzed the combined effect of EU enlargement and upcoming EU policy changes—i.e., Agenda 2000 (see *AO* October 1999)—on production and trade of grains, oilseeds, and livestock in the CEE's. The analysis covered Poland, Hungary, and the Czech Republic, with the assumption that the CEE's would immediately adopt the CAP in 2002 (i.e., no transition period). Under this simplified scenario, all CEE markets adjust to what would be prevailing prices under Agenda 2000. In addition, it was assumed that CEE producers would be eligible for compensation payments currently granted to EU-15 farmers and would be subject to EU dairy quotas. Key results for the three CEE commodity markets include the following:

- The CEE's in aggregate become net importers of wheat. Hungary becomes a slightly larger exporter, but these exports are outweighed by large imports by Poland and the Czech Republic. Wheat prices in Poland and the Czech Republic are currently above projected wheat prices under Agenda 2000. Accession will thus bring about lower prices and higher wheat imports in these two countries.
- The CEE's become exporters of corn and other coarse grains and smaller net importers of barley. All CEE coarse grain prices rise, since current coarse grain prices in all the CEE's are 20-30 percent below those in the EU.
- Oilseed production declines in all CEE's analyzed, principally because the new set of relative prices favors grain. Imports of oilseed meal increase.
- The CEE's become large net exporters of beef and pork. Because current CEE beef and pork prices are so far below those of the EU, CEE producers experience price rises of 40 to 60 percent. Output, particularly of pork, expands accordingly. The rise in beef output is constrained by the EU dairy production quota, as more than half of CEE beef production is from dairy herd culls. But higher prices cause consumption to decline sharply, leading to large surpluses.
- Accession would not have significant impacts on total U.S. agricultural exports as modest increases in CEE production would result in only slight declines in U.S. exports of pork and corn. There would be a small rise in U.S. soymeal exports.

Quality Differences, Input Changes To Affect Output

A number of complex issues not accounted for in these forecasts could significantly alter the direction and magnitude of actual change in CEE agricultural sectors in an enlarged EU. One is the question of relative quality of CEE and EU products, particularly livestock products. Much of the current differential in livestock and meat prices between EU and CEE countries is due to lower quality, even though quality varies considerably, particularly in the hog sector. Hogs slaughtered at top plants, which are licensed for export, are generally of high quality, often having a lean meat content of 58 percent or more. But less than 50 percent of Polish and Hungarian hogs are slaughtered at plants with such high quality standards. The remainder are slaughtered at smaller plants not licensed for export, which are not currently required to meet such quality standards. Hogs slaughtered at these plants tend to have a higher fat content. The leaner, higher quality carcasses generally command a higher price—both Poland and Hungary have a system of premiums for high-quality carcasses. In contrast, all hogs slaughtered in the EU-15 must meet strict quality standards.

EU Enlargement Would Increase Pork Production and Surplus for Poland, Hungary, and Czech Republic



Projections for 2005/06 under EU enlargement and Agenda 2000.
Economic Research Service, USDA

All hogs marketed in the enlarged EU will have to meet the higher quality level, and it is difficult to assess the full impact of the more stringent quality standards that will be imposed, with some farms and plants expanding and/or changing practices and others exiting the sector. Because the ERS analysis did not incorporate quality differentials within CEE countries and across an expanded EU, projected gains for CEE meat output—based only on higher prices in the CEE's—may be upper limits.

CEE meat output will also be affected by the very strict EU sanitary regulations governing meat processing. Slaughterhouses will have to install equipment for measuring back fat, apply the EU grading system to all carcasses, and conform to a wide range of regulations regarding flooring, equipment, and physical layout of facilities. Half of Poland's meat output and around 40 percent of Hungary's come from small plants that do not meet EU standards. Many of these operate on the "gray economy" (i.e. they are legal enterprises but do not comply fully with regulations governing taxes, labor, or sanitary standards), and most will have to close down upon accession.

The higher costs incurred in satisfying EU quality standards would not necessarily lead to declines in output. Preparations for accession could instead lead to increasing concentration in the industry. As smaller producers and processors are forced out of business, the more efficient firms, which currently meet EU standards, could expand. Moreover, pre-accession funds provided by the EU can also help existing plants speed up the modernization process.

Special Article

Accession will likely lead to significant changes in markets for land, labor, and capital, which could also hasten restructuring of CEE agriculture. CEE agriculture is now highly labor-intensive because wage rates are low and capital and other inputs are relatively expensive. If labor is fully mobile throughout the enlarged EU, wage levels in the EU and CEE's will tend to converge, and CEE wages could rise significantly. Moreover, the Structural Funds and additional investment that will likely come with accession will generate more employment in the CEE's, putting upward pressure on wages. Higher wages will draw much of the excess labor out of agriculture and should lead to consolidation of farms.

Land prices will likely also increase if all citizens in the expanded EU have the right to purchase CEE land. Land prices in the EU-15 are currently much higher than in the CEE's, and EU investors will be attracted by high-quality, low-priced land in the CEE's. Higher land prices would affect the production of all field crops, leading to more input-intensive production and thus higher yields. As modeled in the ERS analysis, CEE grain yields remain substantially lower than EU yields after accession, reflecting a continuation of current land-intensive production practices. With higher land prices, these practices will no longer be economically rational, and CEE producers may substitute more chemicals for land. In the livestock sector, cattle output would be more affected than hogs or poultry, because they now depend heavily on pasture for feed.

Capital will be more readily available after accession. Currently, investors consider the CEE's to be high-risk investments because of weak contract enforcement, lack of clearly defined bankruptcy procedures, and unclear property rights. EU accession will create a more stable business environment and thus attract more foreign capital.

Much Uncertainty Remains

Although all the CEE's have a long way to go before they are ready for accession, the EU is reluctant to delay enlargement indefinitely for political reasons explained earlier. In recognition of this reality, the EU Commission in mid-October 1999 officially acknowledged the possibility of a transition period. Specifically, the EU might allow a transition period "for those areas where considerable adaptations are necessary and which require substantial effort, including important financial outlays." Examples of such areas are environmental and infrastructure improvements. Other areas that may have a transition period include land and labor markets. The poorer EU countries are reluctant to allow full mobility of CEE labor; in turn the CEE's want a transition period before foreigners would be allowed to buy land. But the EU insists that all regulatory measures essential for the functioning of a single market be put in place immediately upon accession.

The Polish government, in contrast, wants no transition period, except in the area of land markets. Polish producers fear that a transition period would mean that they have to bear the costs of immediate implementation of the EU regulatory regime, but have to wait a number of years before gaining access to the full range of CAP support to agriculture.

In addition to the possible transition period, there are many other areas of uncertainty regarding the impact of EU enlargement, particularly the timetable. The initial wave of CEE's may not accede until 2006 or later, and the EU will not necessarily admit all five simultaneously.

Impacts on commodity markets are also uncertain. ERS analysis suggests increased surpluses of livestock products and rye. The inflow of Structural Funds and capital investment could bring about a dramatic shift in the structure of CEE livestock production and processing, leading to increasing concentration in both. If these shifts in production practices take place, output could increase. However, production in some of the CEE's could actually decline due to increased costs incurred by compliance with EU sanitary and animal welfare regulations.

CEE producers and processors who are able to adapt to the EU regime could benefit in the long term. Many smaller producers and processors will probably be forced out of business, and for this reason an increasing number of CEE producers are opposed to accession. However, the transition might go more smoothly than anticipated if accession generates enough nonagricultural employment to absorb labor released from agriculture. Preparations for accession could thus accelerate the restructuring process and leave remaining CEE producers better prepared to compete in a global economy.

It also appears that impacts on global commodity markets will not be as great as has been suggested by previous USDA analysis. Enlargement could lead to a reduction in U.S. meat exports and a small increase in exports of oilseeds and meal, but will likely not bring significant losses of markets. In the longer term, U.S. trade could benefit if accession brings greater prosperity and purchasing power to the region. AO

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The European Union's Common Agricultural Policy: Pressures for Change

The latest in ERS's International Agriculture and Trade Reports outlook series
Covering **EU's Agenda 2000, potential EU enlargement to the East,** and **WTO policy changes**
Access the summary at usda.mannlib.cornell.edu/reports/erssor/international/wrs-bb/1999/europe/
Full report available in December—watch the ERS website www.econ.ag.gov, in the new **EU Briefing Room**

Agricultural Outlook Forum 2000

February 24-25, 2000
Arlington, VA
(minutes from downtown Washington)

Program

Thursday, February 24

General Sessions

Opening Plenary
Dan Glickman, Secretary of Agriculture
Guest speakers to be announced

9:30 a.m.
Farm and Trade Prospects for 2000
Keith Collins, USDA Chief Economist
Gus Schumacher, USDA Under Secretary

10:30 a.m.
Panel: The Future of Bio-Engineered Farm Products
Addressing the controversies over safety, acceptance, and trade

12 noon
Panel: Farming in the New Millennium
Crop and livestock producers discuss changes and challenges

1:00 p.m.
Food Price Briefing

Afternoon Breakout Sessions

2:15 p.m. concurrent sessions

Farm Income and Finance Outlook
Outlook by farm type and region; financial impacts of structural changes; rural credit markets

Long-Term Commodity Prospects
The latest long-term projections from USDA and private forecasters

Pros and Cons of Production and Marketing Contracts
What farmers expect, the lessons learned, and future trends

Rural America in the New Millennium
The current situation in rural America and the implications for public policy

4:00 p.m. concurrent sessions

Outlook for WTO Negotiations
Post-Seattle outlook and U.S. goals for the new World Trade Organization round

Biotechnology Issues for U.S. Agriculture
The latest on the approval process for bioengineered crop varieties; the concerns of agronomists, growers, and grain handlers

Farming Strategies for Weathering Tough Times
Methods that prove effective in boosting farmers' returns

Concentration and Structural Change in Agriculture
Evolving organization of farms and agribusiness; antitrust issues; policy response

FORUM DINNER - 6:30 p.m.
With featured speaker; preceded by cash bar at 5:30 p.m.

Friday, February 25

Morning Breakout Sessions

8:00 a.m. concurrent sessions

Outlook Sessions: Grains and Oilseeds; Cotton and Fibers; Dairy

The Trade Potential of Sub-Saharan Africa
U.S. Market and investment initiatives; regional views of market development and private investment

Outlook for Labor-Intensive Agriculture
Labor developments affecting farm workers and employers, rural communities, and meat packers

10:00 a.m. concurrent sessions

Outlook Sessions: Livestock and Poultry; Sugar and Sweeteners

New Markets for Bio-Based Energy and Industrial Feedstocks
Demand prospects for bio-based feedstocks for fuel, electricity, and industry

Marketing Information in the Internet Age
How will the Internet change produce price discovery and markets? How does the Agricultural Marketing Service fit in?

The Global Food Market in the 21st Century
Consolidation trends in the U.S. food export industry; international perspective on global food processing, distribution, and retailing

Noon Luncheons

Grains and Oilseeds; Livestock and Poultry; Cotton; Sweeteners; Fruit and Vegetables
Preceded by cash bar, 11:30 a.m.; featured speaker at each luncheon

Afternoon Breakout Sessions

1:45 p.m. concurrent sessions

Potential Impact of E-Commerce
How electronic commerce could alter the business landscape for agriculture, the farm community, and consumers

Balancing Livestock Production with Environmental Quality
Outlook for Federal, state, and local environmental initiatives regarding nutrient management practices of livestock operations

The Changing Market for Organic Foods
What consumers want; changes in organic retailing; venture capital considerations

Animal and Plant Health Issues in Farm Trade
The impact on U.S. exports and on international trade; case studies of opening markets; setting science-based standards for trade

U.S. and International Tobacco Outlook
Trade prospects; follow-up on the tobacco settlement; alternative marketing proposals

For details on attending the Forum or obtaining speeches afterward:
www.usda.gov/oce ● (202) 720-3050 ● agforum@oce.usda.gov

Statistical Indicators

Summary Data

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

				1998	1999			2000		
	1998	1999 F	2000 F	IV	I	II	III F	IV F	I F	II F
Prices received by farmers (1990-92=100)	101	--	--	99	96	98	97	--	--	--
Livestock & products	97	--	--	97	95	93	96	--	--	--
Crops	106	--	--	100	98	103	97	--	--	--
Prices paid by farmers (1990-92=100)										
Production items	113	--	--	110	115	111	111	--	--	--
Commodities and services, interest, taxes, and wage rates (PPITW)	116	--	--	114	115	115	115	--	--	--
Cash receipts ($ bil.)[1]	197	192	--	59	46	41	47	58	--	--
Livestock	95	96	--	25	24	23	25	25	--	--
Crops	102	96	--	35	22	19	22	33	--	--
Market basket (1982-84=100)										
Retail cost	163	--	--	165	167	167	--	--	--	--
Farm value	103	--	--	104	101	97	--	--	--	--
Spread	195	--	--	198	203	204	--	--	--	--
Farm value/retail cost (%)	22	--	--	22	21	21	--	--	--	--
Retail prices (1982-84=100)										
All food	161	164	167	162	164	164	164	165	167	167
At home	161	164	167	163	164	164	164	165	167	166
Away from home	161	165	169	163	164	165	166	166	168	168
Agricultural exports ($ bil.)[2]	53.6	49.0	50.0	14.4	11.8	11.3	11.5	13.9	13.1	11.7
Agricultural imports ($ bil.)[2]	37.0	37.5	38.0	9.2	9.6	9.9	8.8	9.0	9.5	9.6
Commercial production										
Red meat (mil. lb.)	45,134	46,067	43,924	11,702	11,384	11,368	11,627	11,688	11,064	10,803
Poultry (mil. lb.)	33,667	35,631	37,215	8,580	8,638	9,072	8,986	8,935	9,165	9,400
Eggs (mil. doz.)	6,659	6,886	7,030	1,712	1,691	1,702	1,727	1,765	1,735	1,735
Milk (bil. lb.)	157.4	162.2	165.3	38.9	40.5	42.0	39.8	39.9	41.6	42.7
Consumption, per capita										
Red meat and poultry (lb.)	213.7	220.7	218.9	56.4	54.1	55.0	55.3	56.3	54.5	54.5
Corn beginning stocks (mil. bu.)[3]	883.2	1,307.8	1,796.4	3,039.8	1,307.8	8,051.9	5,698.4	3,616.2	--	--
Corn use (mil. bu.)[3]	8,791.0	9,291.3	9,305.0	1,734.0	3,021.0	2,359.2	2,089.4	1,821.7	--	--
Prices[4]										
Choice steers--Neb. Direct ($/cwt)	61.48	65.15	67-72	61.06	62.43	65.04	65.12	67-69	67-71	67-73
Barrows and gilts--IA, So. MN ($/cwt)	34.72	32.43	34-37	22.06	28.83	35.18	35.70	29-31	31-33	34-36
Broilers--12-city (cents/lb.)	63.10	58.00	54-58	64.50	58.10	58.60	58.10	56-58	52-56	54-58
Eggs--NY gr. A large (cents/doz.)	75.80	67.30	61-66	81.70	75.00	58.10	66.20	69-71	63-67	53-57
Milk--all at plant $/cwt)	15.42	14.35-14.45	12.50-13.40	17.83	15.97	12.87	14.83	13.70-14.00	11.80-12.40	11.70-12.60
Wheat--KC HRW ordinary ($/bu.)	3.29	3.08	--	3.34	3.16	2.92	2.82	--	--	--
Corn--Chicago ($/bu.)	2.34	2.06	--	2.11	2.16	2.13	1.83	--	--	--
Soybeans--Chicago ($/bu.)	6.01	--	--	5.44	4.95	4.58	4.40	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	67.02	--	--	64.15	56.61	55.43	49.11	--	--	--

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Farm real estate values[5]										
Nominal ($ per acre)	683	703	713	740	798	844	887	926	974	992
Real (1982 $)	528	521	507	514	540	558	572	586	604	609
U.S. civilian employment (mil.)[6]	125.8	126.3	128.1	129.2	131.1	132.3	133.9	136.3	--	--
Food and fiber (mil.)	24.9	24.4	23.7	24.0	24.5	24.8	24.7	24.3	--	--
Farm sector (mil.)	2.0	2.0	1.9	1.8	1.9	1.9	1.9	1.8	--	--
U.S. gross domestic product ($ bil.)	5,743.8	5,916.7	6,244.4	6,558.1	6,947.0	7,269.6	7,661.6	8,110.9	--	--
Food and fiber--net value added ($ bil.)	891.7	903.2	937.3	956.7	1,006.1	1,025.8	1,055.8	1,078.1	--	--
Farm sector--net value added ($ bil.)[7]	60.6	56.5	61.7	52.8	57.0	53.9	66.1	60.6	--	--

F = Forecast. -- = Not available. 1. Quarterly data for 1999 are forecast. 2. Annual data based on Oct.-Sept. fiscal years ending with year 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. As of January 1. 6. Civilian labor force taken from "Monthly Labor Review," Table 18--Annual Data: Employment Status of the Population, Bureau of Labor Statistics, U.S. Department of Labor. 7. The value-added data presented here is consistent with accounting conventions of the National Income and Product Accounts, U.S. Department of Commerce.

U.S. & Foreign Economic Data

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

	1996	1997	1998	1998 I	1998 II	1998 III	1998 IV	1999 I	1999 II	1999 III
Billions of current dollars (quarterly data seasonally adjusted at annual rates)										
Gross Domestic Product	7,813.2	8,300.8	8,759.9	8,610.6	8,683.7	8,797.9	8,947.6	9,072.7	9,146.2	9,276.3
Gross National Product	7,831.2	8,305.0	8,750.0	8,613.7	8,683.7	8,772.2	8,930.5	9,058.2	9,131.9	9,262.0
Personal consumption expenditures	5,237.5	5,524.4	5,848.6	5,714.7	5,816.2	5,889.6	5,973.7	6,090.8	6,200.8	6,296.0
Durable goods	616.5	642.9	698.2	679.2	693.9	696.9	722.8	739.0	751.6	760.7
Nondurable goods	1,574.1	1,641.7	1,708.9	1,674.6	1,701.2	1,716.6	1,742.9	1,787.8	1,824.8	1,854.0
Food	786.0	817.0	853.4	832.9	847.6	857.6	875.6	885.4	893.4	902.8
Clothing and shoes	258.6	271.2	286.3	282.5	287.1	286.6	289.2	301.8	306.7	308.4
Services	3,047.0	3,239.8	3,441.5	3,360.9	3,421.1	3,476.1	3,508.0	3,564.0	3,624.3	3,681.3
Gross private domestic investment	1,242.7	1,383.7	1,531.2	1,514.3	1,495.0	1,535.3	1,580.3	1,594.3	1,585.4	1,631.1
Fixed investment	1,212.7	1,315.4	1,460.0	1,415.4	1,454.2	1,461.7	1,508.9	1,543.3	1,567.8	1,600.0
Change in private inventories	30.0	68.3	71.2	98.9	40.8	73.7	71.4	51.0	17.6	31.1
Net exports of goods and services	-89.0	-88.3	-149.6	-117.4	-153.9	-165.7	-161.2	-201.6	-245.8	-282.0
Government consumption expenditures and gross investment	1,421.9	1,481.0	1,529.7	1,499.0	1,526.5	1,538.7	1,554.8	1,589.1	1,605.9	1,631.2
Billions of 1996 dollars (quarterly data seasonally adjusted at annual rates) [1]										
Gross Domestic Product	7,813.2	8,165.1	8,516.3	8,412.7	8,457.2	8,536.0	8,659.2	8,737.9	8,778.6	8,882.6
Gross National Product	7,831.2	8,168.8	8,506.0	8,414.8	8,456.6	8,510.6	8,641.9	8,723.3	8,764.3	8,868.4
Personal consumption expenditures	5,237.5	5,433.7	5,698.6	5,592.3	5,675.6	5,730.7	5,795.8	5,888.4	5,961.8	6,025.1
Durable goods	616.5	657.4	731.5	704.9	723.9	731.2	766.0	788.8	806.1	819.9
Nondurable goods	1,574.1	1,619.9	1,685.3	1,654.9	1,681.9	1,692.0	1,712.6	1,749.5	1,763.7	1,779.3
Food	786.0	799.1	820.6	805.7	818.2	823.0	835.4	839.5	844.6	849.0
Clothing and shoes	258.6	271.1	292.2	287.8	293.1	292.2	295.6	314.7	316.8	322.0
Services	3,047.0	3,156.7	3,284.5	3,234.2	3,272.2	3,309.6	3,322.0	3,356.5	3,399.2	3,433.7
Gross private domestic investment	1,242.7	1,385.8	1,547.4	1,531.5	1,513.1	1,551.1	1,593.9	1,608.2	1,599.8	1,650.5
Fixed investment	1,212.7	1,316.0	1,471.8	1,424.2	1,466.7	1,474.0	1,522.5	1,555.9	1,581.0	1,615.4
Change in private inventories	30.0	69.1	74.3	107.3	43.1	76.1	70.7	50.1	14.0	28.1
Net exports of goods and services	-89.0	-109.8	-215.1	-171.7	-218.4	-237.9	-232.3	-284.5	-319.0	-343.0
Government consumption expenditures and gross investment	1,421.9	1,455.1	1,480.3	1,459.2	1,480.7	1,485.3	1,495.9	1,514.6	1,519.5	1,532.0
GDP implicit price deflator (% change)	1.8	1.7	1.2	0.9	1.3	1.5	1.0	2.0	1.4	0.9
Disposable personal income ($ bil.)	5,677.7	5,982.8	6,286.2	6,163.5	6,238.3	6,325.3	6,417.8	6,505.4	6,593.2	6,665.9
Disposable pers. income (1992 $ bil.)	5,677.7	5,884.7	6,125.1	6,031.5	6,087.5	6,154.6	6,226.6	6,289.3	6,339.1	6,379.1
Per capita disposable pers. income ($)	21,385	22,320	23,231	22,863	23,086	23,345	23,628	23,904	24,171	24,371
Per capita disp. pers. income (1992 $)	21,385	21,954	22,636	22,373	22,528	22,715	22,924	23,110	23,239	23,322
U.S. resident population plus Armed Forces overseas (mil.)[2]	265.5	268.0	270.6	269.5	270.1	270.8	271.5	272.0	272.7	273.4
Civilian population (mil.)[2]	263.9	266.5	269.1	268.0	268.6	269.3	270.1	270.6	271.2	271.9

	Annual 1996	Annual 1997	Annual 1998	1998 Sep	1999 Apr	1999 May	1999 Jun	1999 Jul	1999 Aug	1999 Sep
Monthly data seasonally adjusted										
Total industrial production (1992=100)	121.4	129.7	135.1	135.2	138.0	138.4	138.4	139.1	139.7	139.5
Leading economic indicators (1992=100)	102.1	103.9	105.5	105.6	107.1	107.4	107.7	108.0	108.0	107.9
Civilian employment (mil. persons)[3]	126.7	129.6	131.5	131.8	133.1	133.2	133.4	133.3	133.4	133.6
Civilian unemployment rate (%)[3]	5.4	4.9	4.5	4.5	4.3	4.2	4.3	4.3	4.2	4.2
Personal income ($ bil. annual rate)	6,547.4	6,951.1	7,358.9	7,441.3	7,692.7	7,721.8	7,783.3	7,806.2	7,834.5	7,837.1
Money stock-M2 (daily avg.) ($ bil.)[4]	3,823.9	4,046.4	4,401.0	4,284.2	4,488.2	4,505.2	4,520.9	4,541.1	4,562.0	4,580.2
Three-month Treasury bill rate (%)	5.02	5.07	4.81	4.74	4.28	4.51	4.59	4.60	4.76	4.73
AAA corporate bond yield (Moody's) (%)	7.37	7.26	6.53	6.40	6.64	6.93	7.23	7.19	7.40	7.39
Total housing starts (1,000)[5]	1,476.8	1,474.0	1,616.9	1,576	1,577	1,668	1,607	1,680	1,672	1,618
Business inventory/sales ratio[6]	1.41	1.38	1.39	1.39	1.36	1.35	1.34	1.34	1.32	--
Sales of all retail stores ($ bil.)[7]	2,465.1	2,546.3	2,696.5	229.5	240.2	247.2	247.0	249.5	252.8	252.5
Nondurable goods stores ($ bil.)	1,457.8	1,505.4	1,563.8	134.7	138.7	143.3	143.9	144.6	146.0	147.0
Food stores ($bil.)	424.2	432.1	443.0	36.7	38.3	38.3	38.2	38.3	38.5	38.7
Apparel and accessory stores ($ bil.)	113.0	116.8	124.2	10.4	11.1	11.5	11.4	11.3	11.4	11.3
Eating and drinking places ($ bil.)	238.4	244.1	247.1	22.4	21.8	23.6	23.7	23.8	23.7	23.8

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

Table 3—World Economic Growth

	Calendar year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	Real GDP, annual percent change									
World	2.0	2.0	1.3	3.1	2.8	3.3	3.2	2.1	2.3	2.9
less U.S.	2.7	1.6	1.0	2.9	2.8	3.2	2.8	1.5	1.9	3.0
Developed Economies	2.4	1.7	0.7	2.9	2.3	2.9	3.0	2.3	2.5	2.6
less U.S.	3.5	1.1	0.0	2.4	2.1	2.5	2.3	1.3	1.9	2.6
United States	-0.2	3.3	2.4	4.0	2.7	3.7	4.5	4.3	3.8	2.7
Canada	-1.9	0.9	2.3	4.7	2.8	1.7	4.0	3.1	3.6	3.0
Japan	3.8	1.0	0.3	0.7	1.4	5.2	1.4	-2.9	1.1	1.2
Australia	-1.1	2.4	3.8	5.2	3.8	4.3	4.1	4.8	4.1	3.4
European Union	4.0	1.1	-0.4	2.7	2.3	1.5	2.4	2.7	2.0	3.0
Transition Economies	-11.4	-6.9	-8.6	-1.7	-0.7	-1.0	1.4	-1.3	1.7	2.6
Eastern Europe	-9.9	9.6	-5.7	12.0	3.4	1.5	2.2	0.3	1.6	3.6
Poland	-7.0	2.6	3.8	5.2	7.0	6.1	6.9	4.8	2.8	5.8
Former Soviet Union	-12.4	-18.0	-11.2	-14.9	-5.9	-4.6	0.1	-3.7	1.8	1.0
Russia	-5.0	-14.5	-8.7	-12.6	-4.1	-3.5	0.8	-4.3	3.1	1.1
Developing Economies	4.4	5.3	5.8	5.1	5.3	5.8	4.2	2.2	1.8	4.2
Asia	6.5	7.7	8.0	8.9	8.4	7.5	6.1	0.3	4.2	5.5
East Asia	8.4	9.5	9.5	10.0	9.0	8.0	7.2	2.3	4.0	5.5
China	9.3	14.2	13.5	12.6	10.5	9.6	8.8	7.8	7.4	8.0
Taiwan	7.5	6.8	6.3	6.6	6.0	5.7	6.8	4.7	5.5	5.4
Korea	8.3	4.7	5.3	8.3	8.9	6.8	5.0	-5.8	8.5	6.8
Southeast Asia	6.5	5.6	7.7	7.9	8.1	7.1	4.8	-6.1	3.6	5.8
Indonesia	8.9	7.2	7.3	7.5	8.2	7.8	4.9	-13.3	2.1	7.7
Malaysia	8.6	7.8	8.3	9.2	9.5	8.6	7.8	-7.4	3.7	6.0
Philippines	-0.6	0.3	2.1	4.4	4.7	5.8	5.2	-0.5	3.0	3.2
Thailand	8.6	8.1	8.4	8.9	8.8	5.5	-0.4	-9.9	3.7	6.2
South Asia	1.4	5.7	4.5	7.1	6.9	6.8	4.5	4.5	5.8	5.2
India	0.5	5.4	5.0	8.1	7.4	7.4	5.2	4.5	6.5	5.4
Pakistan	5.5	7.8	1.9	3.9	5.1	4.7	-0.4	3.7	3.0	4.0
Latin America	3.4	4.9	5.5	2.8	2.6	4.6	5.1	2.6	-1.0	2.8
Mexico	4.2	3.6	2.0	4.4	-6.2	5.1	6.7	4.8	3.0	3.8
Caribbean/Central	-1.2	16.0	10.5	-12.1	8.3	11.4	4.9	3.4	-0.9	2.5
South America	4.3	2.9	4.9	6.1	2.7	3.2	4.9	2.2	-1.5	2.7
Argentina	10.6	9.6	5.7	8.0	-4.0	4.8	8.6	4.0	-3.3	2.9
Brazil	1.3	-0.5	4.9	5.9	4.2	2.8	3.2	0.2	-0.1	3.0
Colombia	2.4	3.9	5.4	5.8	5.8	2.0	3.1	9.9	-3.2	2.0
Venezuela	9.7	6.1	0.3	-2.3	3.7	-0.5	5.1	-0.7	-7.1	1.6
Middle East	1.6	1.1	1.1	-1.3	2.0	1.9	-9.7	11.7	-2.3	1.3
Israel	7.7	5.6	5.6	6.9	7.0	4.6	2.2	1.9	1.5	2.6
Saudi Arabia	10.5	2.8	-0.6	0.5	0.5	1.4	1.9	1.4	-1.5	1.6
Turkey	0.9	6.4	8.7	-5.2	7.8	7.0	7.5	2.8	-4.1	5.3
Africa	1.0	0.3	1.2	1.7	2.9	4.5	2.9	3.4	3.2	4.7
North Africa	1.6	2.2	0.4	3.5	2.1	5.9	2.6	5.1	4.6	5.5
Egypt	1.1	4.4	2.9	3.9	4.6	5.0	5.0	5.0	6.0	5.4
Sub-Sahara	0.8	-0.8	1.7	0.7	3.4	3.8	3.1	2.4	2.5	4.2
South Africa	-1.0	-2.6	1.5	2.8	3.1	3.3	1.8	0.6	0.8	3.4
	Consumer Prices, annual percent change									
Developed Economies	4.7	3.5	3.1	2.6	2.6	2.4	2.1	1.5	1.4	1.8
Transition Economies	94.1	646.6	602.0	266.9	126.8	40.6	28.2	20.9	39.3	18.1
Developing Economies	43.2	32.8	47.3	51.8	22.1	14.6	9.2	10.3	6.7	5.8
Asia	8.3	7.6	10.7	15.9	12.8	8.2	4.8	8.0	3.1	3.5
Latin America	173.9	110.8	209.0	208.9	35.9	22.4	13.2	10.6	9.8	7.6
Middle East	28.0	25.1	25.3	31.4	35.6	24.2	23.1	23.6	18.3	13.1
Africa	24.6	32.5	30.6	37.3	33.2	25.9	11.1	8.7	9.0	6.9

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

Information contact: Andy Jerardo (202) 694-5323

Farm Prices

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

	Annual			1998	1999					
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
					1990-92=100					
Prices received										
All farm products	112	107	101	99	99	98	95	98	97	92
All crops	127	116	107	100	105	100	95	99	95	88
Food grains	157	128	103	100	91	87	77	87	88	87
Feed grains and hay	146	117	100	85	93	91	84	85	81	75
Cotton	122	112	107	109	93	92	90	87	76	80
Tobacco	105	104	104	107	--	--	86	94	101	104
Oil-bearing crops	128	131	107	93	81	80	75	78	83	81
Fruit and nuts, all	118	108	114	126	123	130	133	138	131	131
Commercial vegetables	111	122	120	132	122	111	103	105	104	97
Potatoes and dry beans	114	90	98	82	108	111	121	107	90	83
Livestock and products	99	98	96	98	93	95	94	97	98	97
Meat animals	87	92	79	75	83	84	81	85	84	87
Dairy products	114	102	118	136	98	100	105	115	121	119
Poultry and eggs	120	113	117	126	110	113	113	110	110	102
Prices paid										
Commodities and services,										
interest, taxes, and wage rates (PPITW)	114	117	115	114	116	117	116	117	116	116
Production items	114	117	112	110	113	113	113	113	112	113
Feed	129	123	105	99	102	100	98	99	98	98
Livestock and poultry	75	94	88	86	89	93	92	91	94	101
Seeds	115	119	122	123	121	121	121	121	121	121
Fertilizer	125	121	112	109	106	105	104	103	104	105
Agricultural chemicals	119	120	122	122	116	120	119	123	124	123
Fuels	102	108	87	81	91	92	101	110	116	116
Supplies and repairs	115	118	119	120	121	121	121	121	121	121
Autos and trucks	118	119	119	118	119	119	119	118	118	118
Farm machinery	125	129	132	134	135	135	135	135	132	132
Building material	115	118	118	118	119	120	121	121	120	120
Farm services	116	117	116	115	116	118	117	117	116	116
Rent	119	121	124	120	130	130	130	130	117	117
Interest payable per acre on farm real estate deb	105	107	108	109	110	110	110	110	110	110
Taxes payable per acre on farm real estate	112	115	119	119	120	120	120	120	120	120
Wage rates (seasonally adjusted)	117	123	129	131	135	135	131	131	131	131
Prod. items, interest, taxes & wage rates (PITW)	114	117	114	112	115	115	115	115	114	114
Ratio, prices received to prices paid (%)*	98	91	88	87	85	84	82	84	84	79
Prices received (1910-14=100)	712	679	643	629	628	620	602	625	613	581
Prices paid, etc. (parity index) (1910-14=100)	1,520	1,558	1,532	1,517	1,546	1,552	1,546	1,551	1,541	1,546
Parity ratio (1910-14=100) (%)*	47	44	42	41	41	40	39	40	40	38

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

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

	Annual[1]			1998	1999					
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
Crops										
All wheat ($/bu.)	4.30	3.38	2.70	2.77	2.53	2.50	2.23	2.52	2.57	2.49
Rice, rough ($/cwt)	9.96	9.70	8.50	9.25	8.16	8.20	8.15	7.62	6.88	7.29
Corn ($/bu.)	2.71	2.43	1.95	1.91	2.00	1.97	1.74	1.75	1.75	1.66
Sorghum ($/cwt)	4.17	3.95	3.10	2.96	2.93	2.87	2.83	2.89	2.82	2.58
All hay, baled ($/ton)	95.80	100.00	87.00	83.80	91.60	81.70	78.40	77.40	74.50	73.70
Soybeans ($/bu.)	7.35	6.47	5.35	5.18	4.51	4.44	4.20	4.39	4.57	4.49
Cotton, upland (¢/lb.)	69.30	65.20	64.20	65.90	56.10	55.50	54.30	53.00	46.20	48.50
Potatoes ($/cwt)	4.93	5.62	5.24	4.47	6.30	6.58	7.34	6.33	5.15	4.75
Lettuce ($/cwt)[2]	14.70	17.60	15.20	21.10	14.00	11.40	12.50	11.90	13.00	13.50
Tomatoes, fresh ($/cwt)[2]	28.10	31.70	35.00	44.90	25.30	33.70	25.40	22.70	26.90	19.90
Onions ($/cwt)	10.50	12.60	13.80	12.70	17.80	17.60	17.10	15.40	12.30	9.16
Beans, dry edible ($/cwt)	23.50	19.30	19.80	19.60	20.10	19.50	19.30	18.80	18.10	16.80
Apples for fresh use (¢/lb.)	20.80	22.10	17.10	22.10	14.00	12.70	12.40	18.40	23.20	23.50
Pears for fresh use ($/ton)	376.00	276.00	291.00	361.00	340.00	356.00	469.00	341.00	388.00	441.00
Oranges, all uses ($/box)[3]	4.79	4.22	4.29	6.38	6.46	8.78	10.10	11.48	7.98	10.25
Grapefruit, all uses ($/box)[3]	2.30	1.91	1.41	5.29	3.66	8.78	10.67	7.45	8.18	6.80
Livestock										
Cattle, all beef ($/cwt)	58.70	63.10	59.60	58.00	62.10	63.70	62.60	63.50	63.90	66.10
Calves ($/cwt)	58.40	78.90	78.80	75.70	87.60	89.00	89.20	89.60	90.90	92.00
Hogs, all ($/cwt)	51.90	52.90	34.40	27.80	36.40	34.20	31.20	36.20	33.70	34.10
Lambs ($/cwt)	88.20	90.30	72.30	67.60	82.80	81.30	77.00	68.90	75.30	--
All milk, sold to plants ($/cwt)	14.75	13.36	15.41	17.70	12.80	13.10	13.70	15.00	15.80	15.50
Milk, manuf. grade ($/cwt)	13.43	12.17	14.33	16.80	11.50	11.90	13.20	15.20	15.20	13.60
Broilers, live (¢/lb.)	38.10	37.70	39.30	43.40	37.80	38.50	38.10	36.20	36.50	33.50
Eggs, all (¢/doz.)[4]	74.90	70.30	65.50	66.30	52.90	55.30	57.30	59.00	56.70	50.10
Turkeys (¢/lb.)	43.30	39.90	38.00	42.70	39.70	41.50	41.80	43.10	44.50	45.40

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

Producer & Consumer Prices

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

	Annual			1998	1999					
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
					1982-84=100					
Consumer Price Index, all items	156.9	160.5	163.0	164.0	166.2	166.2	166.7	167.1	167.9	168.2
CPI, all items less food	157.5	161.1	163.6	164.4	166.6	166.7	167.2	167.7	168.5	168.8
All food	153.3	157.3	160.7	162.0	163.7	163.6	163.8	164.2	164.6	165.1
Food away from home	152.7	157.0	161.1	162.3	164.6	164.6	165.1	165.6	165.8	166.2
Food at home	154.3	158.1	161.1	162.5	163.9	163.7	163.7	164.1	164.5	165.1
Meats[1]	140.2	144.4	141.6	141.3	141.4	141.8	142.2	142.8	143.9	144.4
Beef and veal	134.5	136.8	136.5	136.1	137.9	139.4	138.9	138.8	140.3	141.6
Pork	148.2	155.9	148.5	147.5	144.7	145.4	146.9	147.6	149.7	148.1
Poultry	152.4	156.6	157.1	161.1	155.7	156.8	157.3	158.5	159.8	158.1
Fish and seafood	173.1	177.1	181.7	183.1	185.9	184.6	184.4	185.2	184.7	187.3
Eggs	142.1	140.0	135.4	136.1	121.4	125.1	119.5	130.8	128.2	119.8
Dairy and related products[2]	142.1	145.5	150.8	155.0	156.2	156.1	155.7	156.5	158.7	164.1
Fats and oils[3]	140.5	141.7	146.9	156.8	147.2	147.5	148.1	148.6	148.5	149.0
Fresh fruits	234.4	236.3	246.5	251.8	280.6	273.4	264.9	266.2	265.8	262.3
Fresh vegetables	189.2	194.6	215.8	213.9	207.7	203.1	206.0	204.8	208.0	208.9
Potatoes	180.6	174.2	185.2	187.0	191.5	194.7	205.0	212.1	204.6	194.8
Cereals and bakery products	174.0	177.6	181.1	182.2	185.1	185.7	186.3	184.9	185.2	185.2
Sugar and sweets	143.7	147.8	150.2	150.5	153.0	152.4	152.4	152.7	153.5	153.3
Nonalcoholic beverages[4]	128.6	133.4	133.0	132.6	134.2	134.3	134.3	134.5	134.2	134.6
Apparel										
Footwear	126.6	127.6	128.0	130.3	127.4	125.4	125.2	123.8	124.7	126.1
Tobacco and smoking products	232.8	243.7	274.8	284.9	345.5	343.2	356.0	350.1	373.8	373.3
Alcoholic beverages	158.5	162.8	165.7	166.6	169.3	169.5	169.9	170.2	170.7	170.5

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

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

	Annual			1998	1999					
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
					1982=100					
All commodities	127.7	127.6	124.4	124.0	124.7	125.2	125.5	126.8	128.0	127.9
Finished goods[1]	131.3	131.8	130.6	131.4	132.4	132.7	132.9	133.7	134.8	135.0
All foods[2]	132.5	132.8	132.4	133.8	131.6	132.3	131.3	132.7	134.4	132.9
Consumer foods	133.6	134.5	134.3	135.5	134.5	135.1	134.3	135.7	137.0	135.6
Fresh fruits and melons	100.8	99.4	90.0	93.1	115.4	104.5	99.9	96.7	105.4	107.2
Fresh and dry vegetables	135.0	123.1	139.5	148.4	111.5	127.7	117.3	111.1	120.4	108.1
Dried and dehydrated fruits	124.2	124.9	124.4	124.1	120.6	120.6	120.6	120.6	118.8	119.1
Canned fruits and juices	137.5	137.6	134.4	133.1	137.9	137.5	138.6	137.9	138.3	137.7
Frozen fruits, juices and ades	123.9	117.2	116.1	117.7	121.8	121.6	120.4	117.8	120.8	120.1
Fresh veg. except potatoes	120.9	121.3	137.9	161.9	111.3	125.8	103.4	113.7	117.5	100.0
Canned vegetables and juices	121.2	120.1	121.5	119.6	121.0	121.0	121.0	121.0	120.9	120.7
Frozen vegetables	125.4	125.8	125.4	125.6	125.9	126.0	127.3	126.1	126.1	126.4
Potatoes	133.9	106.1	122.5	126.0	131.0	146.8	164.3	151.3	116.4	108.8
Eggs for fresh use (1991=100)	105.1	97.1	90.1	92.0	66.8	70.1	75.2	82.7	75.7	61.5
Bakery products	169.8	173.9	175.8	176.3	177.7	177.6	177.8	177.8	178.0	178.4
Meats	109.0	111.6	101.4	98.1	104.8	106.5	104.2	108.2	109.7	108.4
Beef and veal	100.2	102.8	99.5	96.8	104.3	108.4	107.0	108.6	110.0	112.0
Pork	120.9	123.1	96.6	91.1	100.2	98.0	92.8	104.1	107.4	99.3
Processed poultry	119.8	117.4	120.7	124.6	114.4	115.6	114.7	114.5	115.2	111.7
Unprocessed and packaged fish	165.9	178.1	183.0	181.2	187.1	186.9	189.9	188.4	193.4	195.9
Dairy products	130.4	128.1	138.1	148.3	133.0	135.3	136.4	139.9	143.9	144.1
Processed fruits and vegetables	127.6	126.4	125.8	125.1	127.9	127.8	127.8	127.2	127.5	127.3
Shortening and cooking oil	138.5	137.8	143.4	150.5	--	--	--	--	--	--
Soft drinks	134.0	133.2	134.8	135.0	137.4	136.9	136.6	138.1	138.1	138.7
Finished consumer goods less foods	127.6	128.2	126.4	127.1	129.6	130.0	130.8	131.8	133.4	133.7
Alcoholic beverages	132.8	135.1	135.2	135.8	136.3	136.1	137.9	137.1	137.5	137.7
Apparel	125.1	125.7	126.6	127.1	127.3	127.0	126.4	125.9	126.1	126.3
Footwear	141.6	143.7	144.7	144.7	144.4	144.5	144.5	144.5	144.6	144.7
Tobacco products	237.4	248.9	283.4	288.0	363.5	363.6	363.5	363.8	394.5	394.5
Intermediate materials[3]	125.8	125.6	123.0	122.3	122.2	123.0	123.6	124.7	125.2	125.2
Materials for food manufacturing	125.3	123.2	123.1	125.4	119.6	120.0	118.6	121.1	122.5	122.4
Flour	136.8	118.7	109.2	109.2	104.6	105.2	103.2	105.9	103.9	102.3
Refined sugar[4]	123.7	123.6	119.8	120.0	122.7	122.6	122.9	122.5	121.8	121.1
Crude vegetable oils	118.1	116.6	131.1	124.2	95.1	85.5	77.7	85.1	85.4	81.7
Crude materials[5]	113.8	111.1	96.7	94.0	97.4	97.4	97.4	102.1	106.9	104.9
Foodstuffs and feedstuffs	121.5	112.2	103.8	103.7	99.6	99.5	95.9	100.1	100.5	99.6
Fruits and vegetables and nuts[6]	122.5	115.5	117.2	122.3	122.3	122.4	115.6	111.2	120.0	115.2
Grains	151.1	111.2	93.4	84.6	84.6	82.2	71.7	80.9	75.9	72.7
Slaughter livestock	95.2	96.3	82.3	78.7	87.9	88.6	85.0	88.6	86.7	90.9
Slaughter poultry, live	140.5	131.0	141.4	161.8	136.6	135.6	137.6	126.3	132.6	122.7
Plant and animal fibers	129.4	117.0	110.4	122.6	93.8	89.6	79.4	82.7	80.0	80.8
Fluid milk	107.9	97.5	112.6	127.7	94.8	97.3	101.9	111.7	118.4	114.6
Oilseeds	139.4	140.8	114.4	103.0	93.3	91.5	82.2	91.5	92.4	88.4
Leaf tobacco	89.4	--	104.6	109.6	--	--	95.8	96.7	105.5	109.6
Raw cane sugar	118.6	116.8	117.2	115.8	118.3	119.4	120.6	115.2	114.0	109.6

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

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

Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual			1998	1999					
	1996	1997	1998	Sep	Apr	May	Jun	Jul	Aug	Sep
Market basket[1]										
Retail cost (1982-84=100)	155.9	159.7	163.1	163.2	166.4	167.1	166.7	166.6	167.1	167.7
Farm value (1982-84=100)	111.1	106.2	103.3	104.9	96.2	97.2	98.6	96.9	98.7	100.3
Farm-retail spread (1982-84=100)	180.1	188.6	195.4	194.7	204.3	204.8	203.5	204.1	203.9	204.1
Farm value-retail cost (%)	24.9	23.3	22.2	22.5	20.2	20.4	20.7	20.4	20.7	20.9
Meat products										
Retail cost (1982-84=100)	140.1	144.4	141.6	141.6	140.5	141.4	141.8	142.2	142.8	143.9
Farm value (1982-84=100)	100.4	101.2	84.8	81.3	83.8	82.2	82.4	82.9	83.8	84.7
Farm-retail spread (1982-84=100)	180.9	188.6	200.0	203.5	198.7	202.2	202.7	203.1	203.3	204.6
Farm value-retail cost (%)	36.3	35.5	30.3	29.1	30.2	29.4	29.4	29.5	29.7	29.8
Dairy products										
Retail cost (1982-84=100)	142.1	145.5	150.8	152.9	156.1	156.2	156.1	155.7	156.5	158.7
Farm value (1982-84=100)	107.2	98.0	113.0	125.4	89.8	97.0	100.9	99.2	107.4	112.3
Farm-retail spread (1982-84=100)	174.3	189.3	185.6	178.3	217.2	210.8	207.0	207.8	201.8	201.4
Farm value-retail cost (%)	36.2	32.3	36.0	39.3	27.6	29.8	31.0	30.6	32.5	34.0
Poultry										
Retail cost (1982-84=100)	152.4	156.6	157.1	159.3	157.6	155.7	156.8	157.3	158.5	159.8
Farm value (1982-84=100)	126.2	120.6	126.1	143.9	111.7	121.7	124.4	123.5	119.0	120.5
Farm-retail spread (1982-84=100)	182.6	198.1	192.9	177.1	210.5	194.9	194.1	196.2	204.0	205.1
Farm value-retail cost (%)	44.3	41.2	42.9	48.3	37.9	41.8	42.5	42.0	40.2	40.3
Eggs										
Retail cost (1982-84=100)	142.1	140.0	137.1	132.4	129.6	121.4	125.1	119.5	130.8	128.2
Farm value (1982-84=100)	114.7	99.3	89.6	85.2	74.2	60.2	64.6	68.6	72.2	68.2
Farm-retail spread (1982-84=100)	191.4	213.0	222.5	217.1	229.1	231.4	233.8	211.0	236.1	235.9
Farm value-retail cost (%)	51.9	45.6	42.0	41.4	36.8	31.8	33.2	36.9	35.5	34.2
Cereal and bakery products										
Retail cost (1982-84=100)	174.0	177.6	181.1	181.9	184.8	185.1	185.7	186.3	184.9	185.2
Farm value (1982-84=100)	125.6	107.7	94.4	85.6	85.7	84.0	81.8	78.2	81.8	82.0
Farm-retail spread (1982-84=100)	180.7	187.4	193.2	195.3	198.6	199.2	200.2	201.4	199.3	199.6
Farm value-retail cost (%)	7.2	7.4	6.4	5.8	5.7	5.6	5.4	5.1	5.4	5.4
Fresh fruit										
Retail cost (1982-84=100)	243.0	245.1	258.2	260.6	301.7	311.8	302.7	292.7	294.2	294.5
Farm value (1982-84=100)	151.7	137.0	141.3	152.3	155.4	162.1	157.2	145.5	157.1	160.4
Farm-retail spread (1982-84=100)	285.2	295.0	312.2	310.6	369.2	380.9	369.9	360.7	357.5	356.4
Farm value-retail cost (%)	19.7	17.7	17.3	18.5	16.3	16.4	16.4	15.7	16.9	17.2
Fresh vegetables										
Retail cost (1982-84=100)	189.2	194.6	215.8	200.1	206.2	207.7	203.1	206.0	204.8	208.0
Farm value (1982-84=100)	113.3	118.7	124.5	103.0	135.0	126.9	133.2	122.4	113.5	114.3
Farm-retail spread (1982-84=100)	228.3	233.6	262.7	250.0	242.8	249.2	239.0	249.0	251.7	256.2
Farm value-retail cost (%)	20.3	20.7	19.6	17.5	22.2	20.7	22.3	20.2	18.8	18.7
Processed fruits and vegetables										
Retail cost (1982-84=100)	144.4	147.9	150.6	152.1	153.3	155.4	154.8	156.4	156.5	154.9
Farm value (1982-84=100)	121.5	115.9	115.1	117.8	113.2	114.6	115.1	114.5	114.5	115
Farm-retail spread (1982-84=100)	151.6	157.9	161.7	162.8	165.8	168.1	167.2	169.5	169.6	167.4
Farm value-retail cost (%)	20.0	18.6	18.2	18.4	17.6	17.5	17.7	17.4	17.4	17.6
Fats and oils										
Retail cost (1982-84=100)	140.5	141.7	146.9	152.4	149.0	147.2	147.5	148.1	148.6	148.5
Farm value (1982-84=100)	112.3	109.4	118.9	120.5	96.4	91.0	89.2	81.2	80.8	83.0
Farm-retail spread (1982-84=100)	150.9	153.6	157.2	164.1	168.4	167.9	168.9	172.7	173.5	172.6
Farm value-retail cost (%)	21.5	20.8	21.8	21.3	17.4	16.6	16.3	13.7	14.6	15.0

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			1998	1999					
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
Beef, All Fresh Retail Value (cts/lb)	252.4	253.8	253.3	251.9	257.7	256.8	258.0	256.9	258.6	260.3
Beef, Choice										
Retail value (cents/lb.)[2]	280.2	279.5	277.1	275	283.2	287.2	289.3	289	289.4	295.4
Wholesale value (cents)[3]	158.1	158.2	153.8	156.4	171.3	178.1	171.5	175.8	177.3	183.1
Net farm value (cents)[4]	134.9	137.2	130.8	130.9	139.6	142.1	138.6	140.4	140.9	148.4
Farm-retail spread (cents)	145.3	142.3	146.3	144.1	143.6	145.1	150.7	148.6	148.5	147
Wholesale-retail (cents)[5]	122.1	121.3	123.3	118.6	111.9	109.1	117.8	113.2	112.1	112.3
Farm-wholesale (cents)[6]	23.2	21.0	23.0	25.5	31.7	36	32.9	35.4	36.4	34.7
Farm value-retail value (%)	48	49	47	48	49	49	48	49	49	50
Pork										
Retail value (cents/lb.)[2]	233.7	245.0	242.7	242.2	239.2	241.2	244.3	246.8	248.1	244.7
Wholesale value (cents)[3]	123.2	123.1	97.3	93.3	105.3	100.5	97.0	107.7	105.1	99.5
Net farm value (cents)[4]	99.4	95.3	61.2	52.1	68.5	63	58.4	68.6	63.3	63.2
Farm-retail spread (cents)	134.3	149.6	181.5	190.1	170.7	178.2	185.9	178.2	184.8	181.5
Wholesale-retail (cents)[5]	110.5	121.9	145.4	148.9	133.9	140.7	147.3	139.1	143.0	145.2
Farm-wholesale (cents)[6]	23.8	27.7	36.1	41.2	36.8	37.5	38.6	39.1	41.8	36.3
Farm value-retail value (%)	43	39	25	22	29	26	24	28	26	26

1. Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by the Bureau of Labor Statistics (BLS). Farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for by-product. Farm values are based on prices at first point of sale, and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail value and farm value, represents charges for assembling, processing, transporting and distributing. 2. Weighted-average value of retail cuts from pork and Choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs and by-product values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of by-products. 5. Charges for retailing and other marketing services such as wholesaling and in-city transportation. 6. Charges for livestock marketing, processing, and transportation. *Information contact: Veronica Jones (202) 694-5387, Larry Duewer (202) 694-5172*

Note: Pork value and spread procedures have been revised (January 1999) and historical data made consistent with the updated series. For the complete updated series call Larry Duewer.

Table 9—Price Indexes of Food Marketing Costs

	Annual			1997	1998				1999	
	1996	1997	1998	IV	I	II	III	IV	I	II
					*1987=100**					
Labor—hourly earnings and benefits	459.7	474.3	490.4	480.2	484.9	488.3	493.0	494.6	497.8	502.5
Processing	474.7	486.0	499.3	490.5	493.8	497.7	500.7	504.9	504.6	513
Wholesaling	516.0	536.2	552.5	545.4	546.8	552.5	555.4	555.1	556.9	562.3
Retailing	419.9	435.2	454.1	441.1	448.7	450.6	457.8	459.4	464.9	465.6
Packaging and containers	399.8	390.3	395.5	392.9	398.5	396.7	394.9	391.9	390.3	396.4
Paperboard boxes and containers	363.8	341.9	365.2	350.3	365.4	368.7	366.8	359.8	355.7	368.3
Metal cans	498.3	491.0	487.9	487.9	494.1	484.7	486.0	486.6	486.6	486.6
Paper bags and related products	437.8	441.9	432.9	442.5	438.8	434.0	430.2	428.5	425.6	435.7
Plastic films and bottles	326.5	326.6	322.8	327.5	326.7	325.0	321.0	318.5	319.7	321.4
Glass containers	460.5	447.4	446.8	446.6	446.9	446.9	446.1	447.3	447.8	447.8
Metal foil	235.7	233.4	232.0	236.4	231.8	232.6	232.6	230.9	228.2	226.1
Transportation services	429.8	430.0	428.3	429.4	429.9	431.8	426.3	425.0	403.9	393.7
Advertising	580.1	609.4	624.5	611.6	623.2	624.2	624.5	626.2	634.1	635.3
Fuel and power	670.7	668.5	619.7	669.0	625.1	622.9	629.2	601.6	586.6	627.3
Electric	501.3	499.2	492.1	491.5	482.2	489.3	511.8	485.0	479.0	484.0
Petroleum	666.8	616.7	457.0	609.6	495.5	470.0	439.2	423.3	388.4	504.0
Natural gas	1,136.7	1,214.0	1,239.4	1,249.4	1,229.4	1,242.1	1,268.5	1,217.7	1,206.3	1,222.8
Communications, water and sewage	296.8	302.8	307.6	304.2	305.5	308.0	308.5	308.5	309.3	308.5
Rent	268.2	265.6	260.5	265.1	262.5	260.4	260.4	258.8	257.5	257.5
Maintenance and repair	499.6	514.9	529.3	519.7	524.1	527.1	531.1	535.1	537.9	540.7
Business services	501.7	512.3	522.9	514.1	518.4	521.2	521.8	530.3	527.7	528.7
Supplies	338.3	337.8	332.3	337.9	335.6	332.4	331.4	329.5	326.6	326.4
Property taxes and insurance	564.3	580.1	598.3	587.3	591.1	595.4	600.7	606.1	609.6	615.2
Interest, short-term	103.9	108.9	103.7	110.1	106.5	106.7	105.6	96.0	93.2	96.7
Total marketing cost index	452.1	459.9	467.2	463.4	465.3	466.9	468.6	468.0	466.5	470.9

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										
1996	519	25,419	2,073	28,117	1,877	377	25,863	68	0.700	65.06
1997	377	25,384	2,343	28,210	2,136	465	25,609	67	0.700	66.32
1998	465	25,653	2,642	28,867	2,171	393	26,303	68	0.700	61.48
1999	393	26,240	2,820	29,559	2,376	370	26,813	69	0.700	65
2000	370	24,875	3,015	28,366	2,310	365	25,691	65	0.700	66-72
Pork										
1996	396	17,117	618	18,131	970	366	16,795	49	0.776	56.53
1997	366	17,274	633	18,273	1,044	408	16,821	49	0.776	54.30
1998	408	19,011	704	20,123	1,229	586	18,308	53	0.776	34.72
1999	586	19,398	826	20,810	1,291	550	18,969	54	0.776	32
2000	550	18,655	800	20,005	1,200	500	18,305	52	0.776	34-37
Veal[6]										
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	262	0	270	0	5	265	1	0.83	82
1999	5	234	0	239	0	6	233	1	0.83	88
2000	6	222	0	228	0	5	223	1	0.83	90
Lamb and mutton										
1996	8	268	73	349	6	9	334	1	0.89	85
1997	9	260	83	352	5	14	333	1	0.89	88
1998	14	251	112	377	6	12	359	1	0.89	74
1999	12	238	109	359	6	11	342	1	0.89	74
2000	11	215	114	340	6	10	324	1	0.89	76
Total red meat										
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	45,284	3,458	49,637	3,406	996	45,235	123	--	--
1999	996	46,216	3,755	50,967	3,673	937	46,357	124	--	--
2000	937	44,073	3,929	48,939	3,516	880	44,543	119	--	--
										¢/lb
Broilers										
1996	560	26,124	4	26,688	4,420	641	21,626	70	0.859	61
1997	641	27,041	5	27,687	4,664	607	22,416	72	0.859	59
1998	607	27,612	5	28,225	4,673	711	22,841	73	0.859	63
1999	711	29,500	4	30,215	4,606	950	24,659	78	0.859	58
2000	950	30,957	4	31,911	4,675	990	26,246	82	0.869	56
Mature chickens										
1996	7	491	0	498	265	6	228	1	1.0	--
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	525	0	533	426	6	101	1	1.0	--
1999	6	555	0	562	405	5	152	1	1.0	--
2000	5	567	0	572	415	5	152	1	1.0	--
Turkeys										
1996	271	5,401	1	5,673	438	328	4,906	19	1.0	66
1997	328	5,412	1	5,741	606	415	4,720	18	1.0	65
1998	415	5,215	0	5,630	446	304	4,880	18	1.0	62
1999	304	5,237	0	5,542	378	250	4,914	18	1.0	69
2000	250	5,332	0	5,582	390	300	4,892	18	1.0	69
Total poultry										
1996	839	32,015	5	32,859	5,123	975	26,760	90	--	--
1997	975	32,964	6	33,944	5,654	1,029	27,261	90	--	--
1998	1,029	33,352	6	34,387	5,545	1,022	27,821	91	--	--
1999	1,022	35,292	5	36,319	5,389	1,205	29,725	96	--	--
2000	1,205	36,855	4	38,064	5,480	1,295	31,289	100	--	--
Red meat and poultry										
1996	1,769	75,303	2,769	79,841	7,976	1,734	70,130	209	--	--
1997	1,734	76,322	3,065	81,120	8,839	1,924	70,357	208	--	--
1998	1,924	78,636	3,464	84,024	8,950	2,018	73,057	214	--	--
1999	2,018	81,508	3,760	87,286	9,062	2,142	76,083	221	--	--
2000	2,142	80,928	3,933	87,003	8,996	2,175	75,833	219	--	--

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

Table 11—U.S. Egg Supply & Use

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption: Total	Consumption: Per capita	Primary market price*
	Million doz.								*No.*	*¢/doz.*
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	6,350.7	5.4	6,367.3	253.1	863.8	8.5	5,241.8	236.8	88.2
1997	8.5	6,473.1	6.9	6,488.5	227.8	894.7	7.4	5,358.6	240.0	81.2
1998	7.4	6,658.7	5.8	6,672.0	218.8	921.8	8.4	5,523.0	245.2	75.8
1999	8.4	6,885.7	7.2	6,901.3	157.1	946.3	5.0	5,792.9	254.7	67.3
2000	5.0	7,030.0	4.0	7,039.0	170.0	1,005.0	5.0	5,859.0	255.4	63.5

Values for the last year are forecasts. Values for previous year are preliminary. * Cartoned grade A large eggs, New York.
Information contact: LaVerne Williams (202) 694-5190

Table 12—U.S. Milk Supply & Use[1]

	Commercial: Production	Commercial: Farm use	Commercial: Farm Marketings	Commercial: Beg. stocks	Commercial: Imports	Total commercial supply	Commercial: CCC net removals	Commercial: Ending stocks	Commercial: Disappearance	All milk price[1]	CCC net removals: Skim solids basis	CCC net removals: Total solid basis[2]
	Billion lbs. (milkfat basis)									*$/cwt*	*Billion lbs.*	
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	156.3	6.6	4.5	145.1	12.80	3.9	5.0
1994	153.6	1.7	151.9	4.5	2.9	159.3	4.8	4.3	150.3	12.97	3.7	4.2
1995	155.3	1.6	153.7	4.3	2.9	160.9	2.1	4.1	154.9	12.74	4.4	3.5
1996	154.0	1.5	153.5	4.1	2.9	159.5	0.1	4.7	154.7	14.74	0.7	0.5
1997	156.1	1.4	154.7	4.7	2.7	162.1	1.1	4.9	156.1	13.34	3.7	2.7
1998	157.4	1.4	156.1	4.9	4.5	165.5	0.4	5.3	159.9	15.42	4.0	2.6
1999	162.2	1.3	160.9	5.3	4.6	170.8	0.3	6.4	164.1	14.40	5.8	3.6
2000	165.2	1.2	164.0	6.4	3.5	173.9	0.5	5.7	167.7	12.95	3.7	2.4

Values for latest year are forecasts. Values for the preceding year are preliminary. 1. Delivered to plants and dealers; does not reflect deductions.
2. Arbitrarily weighted average of milkfat basis (40 percent) and solids basis (60 percent). *Information contact: Jim Miller (202) 694-5184*

Table 13—Poultry & Eggs

	Annual: 1996	Annual: 1997	Annual: 1998	1998: Sep	1999: Apr	1999: May	1999: Jun	1999: Jul	1999: Aug	1999: Sep
Broilers										
Federally inspected slaughter certified (mil. lb.)	26,336.3	27,270.7	27,862.7	2,322.1	2,523.4	2,480.0	2,590.2	2,471.4	2,516.4	2,497.3
Wholesale price, 12-city (cents/lb.)	61.2	58.8	63.1	70.5	55.1	60.0	60.3	59.5	57.6	57.1
Price of grower feed ($/ton)[1]	175.1	157.7	128.7	112.0	107.2	105.0	102.7	95.3	96.5	100
Broiler-feed price ratio[2]	4.4	4.7	6.3	8.2	6.4	7.2	7.5	8.0	7.5	7.3
Stocks beginning of period (mil. lb.)	560.1	641.3	606.8	557.2	777.0	800.1	803.3	831.2	929.4	835.3
Broiler-type chicks hatched (mil.)	8,078.2	8,321.6	8,495.1	695.3	734.3	766.2	744.4	750.5	741.3	699.7
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,465.6	5,477.9	5,280.6	429.5	439.3	440.8	455.7	438.2	468.8	454.9
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.5	64.9	62.2	65.6	63.0	65.6	68.9	71.6	73.6	76.3
Price of turkey grower feed ($/ton)[1]	165.8	142.7	115.8	99.3	99.2	95.7	94.3	86.2	90.7	92.7
Turkey-feed price ratio[2]	5.3	5.6	6.7	7.8	7.8	8.3	8.8	9.7	9.5	9.6
Stocks beginning of period (mil. lb.)	271.3	328.0	415.1	706.8	370.7	455.5	494.3	556.1	599.0	580.3
Poults placed in U.S. (mil.)	327.2	321.5	297.8	21.1	26.8	26.1	25.6	26.8	24.8	21.8
Eggs										
Farm production (mil.)	76,532	77,677	79,905	6,480	6,769	6,925	6,734	6,903	6,970	6,850
Average number of layers (mil.)	299	304	313	311	321	320	320	320	320	322
Rate of lay (eggs per layer on farms)	256.2	255.3	255.4	20.8	21.1	21.6	21	21.6	27.8	21.3
Cartoned price, New York, grade A large (cents/doz.)[3]	88.2	81.2	75.8	77	60.2	59.2	54.9	68.7	67.4	62.4
Price of laying feed ($/ton)[1]	182.5	160.0	137.5	118.3	129.6	137.4	131.7	116.9	116.8	121.9
Egg-feed price ratio[2]	8.6	8.8	9.8	10.7	9.2	7.7	8.4	9.8	10.1	9.3
Stocks, first of month Frozen (mil. doz.)	10.5	7.7	7.4	6.8	7.0	7.1	7.4	8.6	8.5	6.7
Replacement chicks hatched (mil.)	401.6	424.5	438.4	37.9	42.0	40.6	40.6	34.3	35.5	38.8

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

Table 14—Dairy

	Annual			1998	1999					
	1996	1997	1998	Sep	Apr	May	Jun	Jul	Aug	Sep
Milk--Basic Formula Price ($/cwt)[1]	13.4	12.1	14.2	15.1	11.81	11.26	11.42	13.59	15.79	16.26
Wholesale prices										
Butter, Central States (cents/lb.)[2]	108.2	116.2	177.6	273.0	103.8	111	147.7	134.7	141.3	135.8
Am. cheese, Wis. assembly pt. (cents/lb.)	149.1	132.4	158.1	171.0	133.6	124.8	138.1	159.7	188.9	167.3
Nonfat dry milk (cents/lb.)[3]	122.2	110.0	106.9	110.1	102.3	102.3	101.4	101.7	103.8	104.9
USDA net removals										
Total (mil. lb.)[4]	86.9	1,090.3	365.6	15.2	30.8	20.5	22.6	19.8	20.3	30.3
Butter (mil. lb.)	0.1	38.4	6.3	0.0	0.4	0	0	0	0	0.5
Am. cheese (mil. lb.)	4.6	11.3	8.2	0.7	0.3	0.3	0.1	0.2	0.5	0.4
Nonfat dry milk (Mil. lb.)	57.2	298.0	326.4	19.5	48.9	53.8	69.7	55	36.3	39.4
Milk										
Milk prod. 20 states (mil. lb.)	131,084	133,314	134,930	10,672	11,989	12,430	11,714	11,587	11,536	11,198
Milk per cow (lb.)	16,726	17,180	17,501	1,386	1,554	1,609	1,515	1,497	1,489	1,444
Number of milk cows (1,000)	7,837	7,760	7,710	7,701	7,714	7,725	7,730	7,738	7,745	7,753
U.S. milk production (mil. lb.)[5]	154,006	156,091	157,441	12,411	13934	14441	13605	13,429	13,365	12969
Stocks, beginning[4]										
Total (mil. lb.)	4,168	4,714	4,907	6,224	7,396	8,389	9,117	9,303	9,476	8,400
Commercial (mil. lb.)	4,099	4,704	4,889	6,184	7371	8362	9086	9264	9432	8350
Government (mil. lb.)	69	10	18	40	25	27	31	39	44	50
Imports, total (mil. lb.)[4]	2,911	2,698	4,588	413	360	330	317	457	461	--
Commercial disappearance (mil. lb.)[4]	154,745	156,120	159917	13,088	13165	13916	13614	13,587	14778	--
Butter										
Production (mil. lb.)	1,174.5	1,151.2	1,081.9	68.2	106.4	104.7	86.0	75.7	66.1	78.8
Stocks, beginning (mil. lb.)	15.8	13.4	20.5	40.9	108.7	126.3	136.3	121.0	123.2	94.9
Commercial disappearance (mil. lb.)	1,179.8	1,108.7	1136.4	82.3	91.7	96.9	104.8	79.7	100.4	--
American cheese										
Production (mil. lb.)	3,280.8	3,285.6	3,325.8	244.9	318.6	314.6	297.2	303.9	295	283.7
Stocks, beginning (mil. lb.)	306.6	379.6	410.3	441.4	406.0	450.5	495.7	539.1	545.0	510.8
Commercial disappearance (mil. lb.)	3,229.7	3,269.0	3349.7	270.5	279.5	274.1	257.6	302.1	332.1	--
Other cheese										
Production (mil. lb.)	3,936.7	4,044.9	4,176.1	339.2	354.4	361.6	375.6	349.1	356.9	356.0
Stocks, beginning (mil. lb.)	105.3	107.3	70.0	135.2	146.1	172.9	181.0	195.8	205.3	186.7
Commercial disappearance (mil. lb.)	4,242.9	4,366.6	4450.6	366.9	354.7	380.6	384.6	369.1	407.5	--
Nonfat dry milk										
Production (mil. lb.)	1,061.8	1,271.6	1,135.4	62.3	133.7	137.2	120.4	98.9	96	88.9
Stocks, beginning (mil. lb.)	70.6	71.1	103.3	94.8	122.7	136.5	163.7	158.3	141.1	101.3
Commercial disappearance (mil. lb.)	1,009.5	894.1	867.5	73.8	71.6	57	56.5	62.2	104	--
Frozen dessert										
Production (mil. gal.)[6]	1,240.9	1,290.0	1,325.9	111.5	117.6	119.8	136.0	133.7	126.0	108.1

	Annual			1998				1999		
	1996	1997	1998	I	II	III	IV	I	II	III
Milk production (mil. lb.)	154,006	156,091	157,441	39,164	40,821	38,519	38,937	40,540	41,980	39,763
Milk per cow (lb.)	16,433	16,871	17,192	4,268	4,451	4,210	4,261	4,437	4,587	4,339
No. of milk cows (1,000)	9,372	9,252	9,158	9,176	9,171	9,149	9,137	9,136	9,151	9,165
Milk-feed price ratio	1.60	1.54	1.97	1.73	1.71	2.05	2.46	2.20	1.81	2.12
Returns over concentrate costs ($/cwt milk)	10.98	9.80	12.15	11.10	10.40	12.25	14.80	13.00	9.90	12.00

-- = 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			1998				1999		
	1996	1997	1998	I	II	III	IV	I	II	III
U.S. wool price (¢/lb.)[1]	193	238	162	209	178	142	115	115	116	110
Imported wool price (¢/lb.)[2]	196	206	164	192	176	141	141	146	142	133
U.S. mill consumption, scoured										
Apparel wool (1,000 lb.)	129,525	130,386	98,373	29,318	29,577	21,948	17,530	17,767	17,385	--
Carpet wool (1,000 lb.)	12,311	13,576	16,331	3,871	4,052	4,020	4,388	4,538	3,855	--

-- = 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			1998			1999			
	1996	1997	1998	Sep	Apr	May	Jun	Jul	Aug	Sep
Cattle on feed (7 states, 1000+ head capacity)										
Number on feed (1,000 head)[1]	8,667	8,943	9,455	7,750	8,889	8,573	8,537	8,173	7,879	8,175
Placed on feed (1,000 head)	19,564	20,765	19,697	2,254	1,433	1,723	1,505	1,565	2,070	2,345
Marketings (1,000 head)	18,636	19,552	19,126	1,577	1,671	1,686	1,825	1,816	1,732	1,682
Other disappearance (1,000 head)	652	701	691	51	78	73	44	43	42	55
Market prices ($/cwt)										
Slaughter cattle										
Choice steers, 1,100-1,300 lb.										
Texas	65.06	65.99	61.75	57.93	65.34	65.00	66.15	64.51	65.29	66.05
Neb. direct	65.05	66.32	61.48	58.08	65.19	64.41	63.20	64.05	65.26	65.99
Boning utility cows, Sioux Falls	30.33	34.27	36.20	33.47	36.80	39.50	40.00	42.50	42.60	38.00
Feeder steers										
Medium no. 1, Oklahoma City										
600-650 lb.	61.31	81.34	77.70	70.37	82.73	81.08	82.15	84.24	81.85	83.20
750-800 lb.	61.08	76.19	71.78	66.93	70.50	70.01	76.01	76.94	77.04	77.04
Slaughter hogs										
Barrows and gilts, 51-52 percent lean										
National Base converted to live equal.	56.53	54.30	34.72	32.00	31.69	38.45	35.39	32.84	38.56	35.71
Sows, Iowa, S.MN 1-2 300-400 lb.	--	40.24	20.29	15.96	19.49	25.28	24.29	16.22	18.65	19.90
Slaughter sheep and lambs										
Lambs, Choice, San Angelo	85.27	87.95	74.20	74.75	70.50	82.70	81.06	77.29	81.17	76.71
Ewes, Good, San Angelo	39.05	49.33	40.90	36.00	46.63	41.36	41.70	48.18	43.50	42.79
Feeder lambs										
Choice, San Angelo	94.88	104.43	79.59	74.75	81.81	84.71	80.60	77.29	78.83	76.71
Wholesale meat prices, Midwest										
Boxed beef cut-out value										
Choice, 700-800 lb.	102.01	102.75	98.60	99.28	107.42	111.07	116.01	111.14	114.26	115.13
Select, 700-800 lb.	95.34	96.15	92.19	87.41	102.11	101.95	104.76	101.45	104.62	102.69
Canner and cutter cow beef	58.18	64.50	61.49	56.50	63.51	67.52	68.20	70.33	70.15	67.63
Pork cutout	--	--	53.07	50.72	49.83	57.38	53.69	50.55	61.27	56.67
Pork loins, bone-in, 1/4 " trim,14-19 lb.	138.73	128.75	102.04	97.23	99.35	107.44	97.62	105.72	111.55	104.99
Pork bellies, 12-14 lb.	69.96	73.91	52.38	57.49	49.23	53.76	53.41	47.78	67.29	57.87
Hams, bone-in, trimmed, 20-23 lb.	--	--	--	47.05	40.06	44.03	43.54	40.79	52.10	53.65
All fresh beef retail price	252.44	253.77	253.28	250.04	256.97	257.65	256.76	257.96	256.92	258.65
Commercial slaughter (1,000 head)[2]										
Cattle	36,583	36,318	35,471	3,040	2,972	2,997	3,207	3,084	3,154	--
Steers	17,819	17,529	17,430	1,554	1,480	1,576	1,656	1,576	1,601	--
Heifers	10,756	11,528	11,450	950	978	922	1,047	922	1,021	--
Cows	7,274	6,564	5,985	483	460	446	448	446	469	--
Bull and stags	728	696	606	53	54	53	56	53	61	--
Calves	1,768	1,575	1,456	125	97	89	105	111	119	--
Sheep and lambs	4,184	3,911	3,911	276	310	270	270	265	296	--
Hogs	92,394	91,960	101,208	8,169	8,534	7,438	8,319	7,910	8,406	--
Barrows and gilts	88,224	88,409	97,026	7,823	8,217	7,154	7,154	7,154	8,054	--
Commercial production (mil. lb.)										
Beef	25,421	25,384	25,656	2,228	2,155	2,151	2,321	2,256	2,309	--
Veal	368	324	250	20	18	17	17	17	20	--
Lamb and mutton	265	257	247	17	21	18	19	19	19	--
Pork	17,084	17,244	18,981	1,505	1,630	1,418	1,583	1,489	1,565	--

	Annual			1998			1999			
	1997	1998	1999	II	III	IV	I	II	III	IV
Hogs and pigs (U.S.)[3]										
Inventory (1,000 head)[1]	56,124	61,158	62,206	60,163	62,213	63,488	62,206	60,191	60,686	60,736
Breeding (1,000 head)[1]	6,578	6,957	6,682	6,942	6,958	6,875	6,682	6,527	6,515	6,291
Market (1,000 head)[1]	49,546	54,200	55,523	53,220	55,254	56,612	55,523	53,663	54,170	54,444
Farrowings (1,000 head)	11,479	12,038	2,897	3,086	3,054	2,993	2,897	2,990	2,925	2,850
Pig crop (1,000 head)	99,584	104,980	25,293	26,989	26,634	25,902	25,293	26,301	25,907	--
Cattle on Feed, 7 states (1,000 head)[4]										
Steers and Steer Calves	5,410	5,803	5,086	5,245	4,608	5,086	5,086	5,331	5,728	5,276
Heifers and Heifer Calves	3,455	3,615	3,268	3,325	3,191	3,268	3,268	3,527	3,783	3,479
Cows and Bulls	78	37	22	37	26	22	22	31	44	28

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

Crops & Products

Table 17—Supply & Utilization[1,2]

	Area											
	Set-aside[3]	Planted	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												
1995/96	6.1	69.0	61.0	35.8	2,183	2,757	154	986	1,241	2,381	376	4.55
1996/97	--	75.1	62.8	36.3	2,277	2,746	308	993	1,002	2,302	444	4.30
1997/98	--	70.4	62.8	39.5	2,481	3,020	251	1,007	1,040	2,298	722	3.38
1998/99*	--	65.8	59.0	43.2	2,547	3,373	401	984	1,042	2,427	946	2.65
1999/2000*	--	63.0	54.1	42.7	2,308	3,359	250	1,007	1,100	2,357	1,002	2.45-2.55
	Mil. acres			lb./acre	Mil. cwt (rough equiv)							$/cwt
Rice[6]												
1995/96	0.5	3.1	3.1	5,621.0	173.9	212.8	--	6/ 105.6	82.2	187.8	25.0	9.15
1996/97	--	2.8	2.8	6,120.0	171.6	207.1	--	6/ 102.7	77.2	179.9	27.2	9.96
1997/98	--	3.1	3.1	5,897.0	183.0	219.4	--	6/ 105.2	86.3	191.5	27.9	9.70
1998/99*	--	3.3	3.3	5,669.0	188.1	226.5	--	6/ 120.9	83.6	204.5	22.0	8.83
1999/2000*	--	3.6	3.6	5,929.0	211.7	244.4	--	6/ 113.0	82.0	195.0	49.4	5.50-6.00
	Mil. acres			Bu./acre	Mil. bu.							$/bu.
Corn												
1995/96	7.7	71.5	65.2	113.5	7,400	8,974	4,708	1,612	2,228	8,548	426	3.24
1996/97	--	79.2	72.6	127.1	9,233	9,672	5,299	1,692	1,797	8,789	883	2.71
1997/98	--	79.5	72.7	126.7	9,207	10,099	5,505	1,782	1,504	8,791	1,308	2.43
1998/99*	--	80.2	72.6	134.4	9,761	11,088	5,489	1,822	1,981	9,291	1,796	1.95
1999/2000*	--	77.6	70.9	134.5	9,537	11,344	5,500	1,880	1,925	9,305	2,039	1.60-2.00
	Mil. acres			Bu./acre	Mil bu.							$/bu.
Sorghum												
1995/96	1.7	9.4	8.3	55.6	459	530	295	19	198	512	18	3.19
1996/97	--	13.1	11.8	67.3	795	814	516	45	205	766	47	2.34
1997/98	--	10.1	9.2	69.2	634	681	365	55	212	632	49	2.21
1998/99*	--	9.6	7.7	67.3	520	569	262	45	197	504	65	1.70
1999/2000*	--	9.3	8.5	70.1	596	661	325	55	200	580	81	1.35-1.75
	Mil. acres			Bu./acre	Mil. bu.							$/bu.
Barley												
1995/96	2.9	6.7	6.3	57.2	359	513	179	172	62	413	100	2.89
1996/97	--	7.1	6.7	58.5	392	529	217	172	31	419	109	2.74
1997/98	--	6.7	6.2	58.1	360	510	144	172	74	390	119	2.38
1998/99*	--	6.3	5.9	60.0	352	501	161	170	28	360	142	1.98
1999/2000*	--	5.2	4.8	59.2	282	454	125	172	30	327	127	1.80-2.20
	Mil. acres			Bu./acre	Mil. bu.							$/bu.
Oats												
1995/96	0.8	6.2	3.0	54.6	161	342	182	92	2	276	66	1.67
1996/97	--	4.6	2.7	57.7	153	317	153	95	3	250	67	1.96
1997/98	--	5.1	2.8	59.5	167	332	161	95	2	258	74	1.60
1998/99*	--	4.9	2.8	60.2	166	348	170	95	2	266	81	1.10
1999/2000*	--	4.7	2.5	59.7	147	328	165	96	2	263	65	1.05-1.15
	Mil. acres			Bu./acre	Mil. bu.							$/bu.
Soybeans[7]												
1995/96	--	62.6	61.6	35.3	2,177	2,516	112	1,370	851	2,333	183	6.72
1996/97	--	64.2	63.3	37.6	2,380	2,573	123	1,436	882	2,441	132	7.35
1997/98	--	70.0	69.1	38.9	2,689	2,826	156	1,597	873	2,626	200	6.47
1998/99*	--	72.0	70.4	38.9	2,741	2,944	205	1,590	801	2,596	348	5.00
1999/2000*	--	74.1	72.8	36.7	2,673	3,024	154	1,610	865	2,629	395	4.60-5.10
								Mil. lbs.				¢/lb.
Soybean oil												
1995/96	--	--	--	--	15,240	16,472	--	13,465	992	14,457	2,015	24.75
1996/97	--	--	--	--	15,752	17,821	--	14,263	2,037	16,300	1,520	22.50
1997/98	--	--	--	--	18,143	19,723	--	15,262	3,079	18,341	1,382	25.84
1998/99*	--	--	--	--	18,081	19,547	--	15,600	2,421	18,021	1,526	19.90
1999/2000*	--	--	--	--	18,115	19,720	--	15,900	1,800	17,700	2,020	15.50-18.00
								1,000 tons				$/ton[8]
Soybean meal												
1995/96	--	--	--	--	32,527	32,826	--	26,611	6,002	32,613	212	236.0
1996/97	--	--	--	--	34,210	34,524	--	27,320	6,994	34,314	210	270.9
1997/98	--	--	--	--	38,176	38,443	--	28,895	9,329	38,225	218	185.5
1998/99*	--	--	--	--	37,792	38,110	--	30,580	7,200	37,780	330	138.5
1999/2000*	--	--	--	--	38,270	38,650	--	31,000	7,400	38,400	250	140-165

See footnotes at end of table, next page

Table 17—Supply & Utilization (continued)

	Area						Feed	Other					
	Set-aside[3]	Planted	Harvested	Yield	Productic	Total supply[4]	& residual	domestic use	Exports	Total use	Ending stocks	Farm price[5]
	Mil. Acres			*Lb./acre*	*Mil. Bales*							*¢/lb.*
Cotton[9]												
1995/96	1.7	16.9	16.0	537	17.9	21.0	--	10.6	7.7	18.3	2.6	75.4
1996/97	0.3	14.7	12.9	705	18.9	22.0	--	11.1	6.9	18.0	4.0	69.3
1997/98	--	13.9	13.4	673	18.8	22.8	--	11.3	7.5	18.8	3.9	65.2
1998/99*	--	13.4	10.7	625	13.9	18.2	--	10.4	4.3	14.7	3.9	60.2
1999/2000	--	14.6	13.4	592	16.5	20.5	--	10.2	5.7	15.9	4.6	--

-- = Not available or not applicable. *November 10, 1999 Supply and Demand Estimates. 1. Marketing year beginning June 1 for wheat, barley, and oats; August 1 for cotton and rice; September 1 for soybeans, corn, and sorghum; October 1 for 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 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3. Includes diversion, acreage reduction, 50-92, & 0-92 programs. 0/92 & 50/92 set-aside includes idled acreage and acreage planted to minor oilseeds, sesame, and crambe. 4. Includes imports. 5. Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding and government purchases. 6. Residual included in domestic use. 7. Includes seed. 8. Simple average of 48 percent protein, Decatur. 9. Upland and extra-long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply and use estimates and changes in ending stocks. *Information contacts: Wheat, rice, feed grains, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

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

	Marketing year[1]			1998	1999					
	1996/97	1997/98	1998/99	Sep	Apr	May	Jun	Jul	Aug	Sep
Wheat, no. 1 HRW, Kansas City ($/bu.)[2]	4.88	3.71	3.08	2.81	2.94	2.89	2.93	2.68	2.85	2.92
Wheat, DNS, Minneapolis ($/bu.)[3]	4.96	4.31	3.83	3.53	3.65	3.61	3.73	3.68	3.58	3.55
Rice, S.W. La. ($/cwt)[4]	20.34	18.92	16.79	17.50	16.13	15.56	15.13	14.91	14.68	14.38
Corn, no. 2 yellow, 30-day, Chicago ($/bu.)[5]	2.84	2.56	2.06	1.84	2.13	2.16	2.11	1.78	1.84	1.88
Sorghum, no. 2 yellow, Kansas City ($/cwt)[5]	4.54	4.11	3.29	2.98	3.37	3.35	3.32	2.92	3.24	2.97
Barley, feed, Duluth ($/bu.)	2.32	1.90	--	--	--	--	--	--	--	--
Barley, malting Minneapolis ($/bu.)	3.18	2.50	--	--	--	--	--	--	--	--
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.)[6]	71.60	67.79	--	71.75	57.01	55.54	53.74	49.23	49.72	48.39
Northern Europe prices cotton index (¢/lb.)[7]	78.66	72.11	--	66.16	57.86	59.85	58.68	54.56	50.98	49.26
U.S. M 1-3/32 in. (¢/lb.)[8]	82.86	77.98	--	77.75	--	--	--	--	58.63	56.30
Soybeans, no. 1 yellow, 30-day Chicago ($/bu)	7.38	6.51	--	5.01	4.70	4.59	4.45	4.11	4.45	4.65
Soybean oil, crude, Decatur (¢/lb.)	22.50	25.84	19.90	25.13	19.54	17.85	16.50	15.29	16.50	16.79
Soybean meal, 48% protein, Decatur ($/ton)	270.90	185.54	138.50	135.80	134.50	133.20	139.10	132.73	141.69	150.63

-- = 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. Marketing year 1997/98 data are preliminary. 6. Average spot market. 7. Liverpool Cotlook "A" Index; average of 5 lowest prices of 13 selected growths. 8. Cotton, Memphis territory growths. *Information contacts: Wheat, rice, and feed, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

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

	Target price	Basic loan rate	Findley or announced loan rate[1]	Total deficiency payment rate	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										
1995/96	4.00	2.69	2.58	0.00	77.70	0/0/0	--	--	--	85
1996/97	--	--	2.58	--	--	--	0.87	76.70	34.70	99
1997/98	--	--	2.58	--	--	--	0.631	76.7	34.70	--
1998/99	--	--	2.58	--	--	--	0.663	78.9	34.50	--
1999/2000[5]	--	--	2.58	--	--	--	0.637	79.0	34.50	--
		$/cwt					$/cwt			
Rice										
1995/96	10.71	6.50	6.50 [6]	3.22 #	4.20	5/0/0	--	--	--	95
1996/97	--	6.50	--	--	--	--	2.77	4.20	48.27	99
1997/98	--	6.50	--	--	--	--	2.710	4.2	48.17	--
1998/99	--	6.50	--	--	--	--	2.921	4.2	48.17	--
1999/2000[5]	--	6.50	--	--	--	--	2.820	4.2	48.15	--
		$/bu.					$/bu.			
Corn										
1995/96	2.75	1.94	1.89	0.00	81.80	7.5/0/0	--	--	--	82
1996/97	--	--	1.89	--	--	--	0.25	80.70	102.90	98
1997/98	--	--	1.89	--	--	--	0.486	80.9	102.80	--
1998/99	--	--	1.89	--	--	--	0.377	82.0	102.60	--
1999/2000[5]	--	--	1.89	--	--	--	0.363	81.9	102.60	--
		$/bu.					$/bu.			
Sorghum										
1995/96	2.61	1.84	1.80	0.00	13.30	0/0/0	--	--	--	77
1996/97	--	--	1.81	--	--	--	0.32	13.10	57.30	99
1997/98	--	--	1.76	--	--	--	0.544	13.1	57.30	--
1998/99	--	--	1.74	--	--	--	0.452	13.6	56.90	--
1999/2000[5]	--	--	1.74	--	--	--	0.435	13.7	56.90	--
		$/bu.					$/bu.			
Barley										
1995/96	2.36	1.58	1.54	0.00	10.70	0/0/0	--	--	--	82
1996/97	--	--	1.55	--	--	--	0.33	10.50	47.30	99
1997/98	--	--	1.57	--	--	--	0.277	10.5	47.20	--
1998/99	--	--	1.56	--	--	--	0.284	11.2	46.70	--
1999/2000[5]	--	--	1.59	--	--	--	0.271	11.2	46.60	--
		$/bu.					$/bu.			
Oats										
1995/96	1.45	1.00	0.97	0.00	6.50	0/0/0	--	--	--	44
1996/97	--	--	1.03	--	--	--	0.03	6.20	50.80	97
1997/98	--	--	1.11	--	--	--	0.031	6.2	50.80	--
1998/99	--	--	1.11	--	--	--	0.031	6.5	50.70	--
1999/2000[5]	--	--	1.13	--	--	--	0.030	6.5	50.60	--
		$/bu.					$/bu.			
Soybeans[8]										
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
1998/99	--	--	5.26	--	--	--	--	--	--	--
1999/2000	--	--	5.26	--	--	--	--	--	--	--
		¢/lb.					¢/lb.			
Upland cotton										
1995/96	72.90	51.92	51.92 [9]	0.00 #	15.50	0/0/0	--	--	--	79
1996/97	--	51.92	--	--	--	--	8.88	16.20	610.00	99
1997/98	--	51.92	--	--	--	--	7.625	16.2	608.00	--
1998/99	--	51.92	--	--	--	--	8.173	16.4	604.00	--
1999/2000[5]	--	51.92	--	--	--	--	7.880	16.4	604.00	--

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

Table 20—Fruit

	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	15,712	17,271	17,770
Per capita consumpt. (lb.)[2]	23.6	21.4	19.1	24.4	26.0	25.0	24.1	24.9	27.0	27.0
Noncitrus[3]										
Production (1,000 tons)	16,345	15,640	15,740	17,124	16,554	17,339	16,348	16,103	18,363	16,484
Per capita consumpt. (lb.)[2]	72.8	70.4	70.6	73.8	73.9	75.6	73.7	73.9	76.3	76.2

	1998	1999								
	Oct	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Grower prices										
Apples (¢/pound)[4]	22.1	15.0	15.3	14.1	13.3	12.7	12.4	18.4	23.2	23.5
Pears (¢/pound)[4]	18.05	18.10	16.55	16.85	17.00	17.80	23.45	17.05	19.40	22.05
Oranges ($/box)[5]	5.42	5.60	6.02	5.82	6.46	8.78	10.10	11.48	7.98	10.25
Grapefruit ($/box)[5]	3.88	1.60	1.67	2.23	3.66	8.78	10.67	7.45	8.18	6.80
Stocks, ending										
Fresh apples (mil. lb.)	6,796	3,407	2,607	1,858	1,252	732	361	103	2,835	6,174.7
Fresh pears (mil. lb.)	513	177	120	69	39	10	12	130	552	512.0
Frozen fruits (mil. lb.)	1,280	1,022	911	789	801	877	1,101	1,183	1,136	1,313.3
Frozen conc.orange juice (mil. single-strength gallons)	600	907	894	1,035	878	817	744	661	589	482.4

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

Table 21—Vegetables

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Production[1]										
Total vegetables (1,000 cwt)	562,938	565,754	689,070	688,824	782,505	747,988	762,952	760,951	732,259	--
Fresh (1,000 cwt)[2,4]	254,039	242,733	389,597	387,330	412,880	393,398	409,317	433,878	419,779	--
Processed (tons)[3,4]	15,444,970	16,151,030	14,973,630	15,074,707	18,481,238	17,729,497	17,681,732	16,353,639	15,624,011	--
Mushrooms (1,000 lbs)[5]	749,151	746,832	776,357	750,799	782,340	777,870	776,677	808,678	848,401	--
Potatoes (1,000 cwt)	402,110	417,622	425,367	428,693	467,054	443,606	499,254	467,091	477,754	--
Sweet potatoes (1,000 cwt)	12,594	11,203	12,005	11,027	13,380	12,821	13,216	13,327	12,382	--
Dry edible beans (1,000 cwt)	32,379	33,765	22,615	21,862	28,950	30,689	27,912	29,370	30,828	31,506

	1998	1999				1999				
	Oct	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Shipments (1,000 cwt)										
Fresh	17,402	21,811	29,006	28,075	30,679	38,012	22,602	18,631	20,755	18,473
Iceberg lettuce	3,416	2,854	3,721	3,018	3,594	4,370	3,287	3,079	3,952	3,382
Tomatoes, all	2,294	5,540	7,297	6,180	5,233	5,234	4,013	3,293	4,211	3,847
Dry-bulb onions	3,596	2,845	3,825	3,630	3,626	3,759	3,029	3,124	4,461	3,764
Others[6]	8,096	10,572	14,163	15,247	18,226	24,649	12,273	9,135	8,131	7,480
Potatoes, all	17,993	6,870	11,616	12,762	12,195	5,979	3,160	3,726	4,934	6,401
Sweet potatoes	385	227	462	208	184	196	155	172	321	313

-- = Not available. 1. Calendar year except mushrooms. 2. Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes through 1991. 3. Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, and cauliflower. 4. Data after 1991 not comparable to previous years because commodity estimates reinstated in 1992 are included. 5. Fresh and processing agaricus mushrooms only. Excludes specialty varieties. Crop year July 1- June 30. 6. Includes snap beans, broccoli, cabbage, cauliflower, celery, sweet corn, cucumbers, eggplant, bell peppers, honeydews, and watermelons.
Information contact: Gary Lucier (202) 694-5253

Table 22—Other Commodities

	Annual			1998				1999		
	1996	1997	1998	I	II	III	IV	I	II	III
Sugar										
Production[1]	7,268	7,418	7,891	2,376	824	733	3,959	2,636	1,031	--
Deliveries[1]	9,633	9,755	9,851	2,261	2,465	2,616	2,508	2,271	2,594	--
Stocks, ending[1]	3,195	3,377	3,423	3,917	2,881	1,679	3,423	4,219	3,184	--
Coffee										
Composite green price[2] N.Y. (¢/lb.)	109.35	146.49	114.43	143.58	117.73	98.57	97.83	94.37	90.41	77.40

	Annual			1998			1999			
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
Tobacco										
Avg. price to grower[3]										
Flue-cured ($/lb.)	1.83	1.73	1.75	1.87	--	--	1.50	1.64	1.75	1.82
Burley ($/lb.)	1.92	1.86	1.91	--	--	--	--	--	--	--
Domestic taxable removals										
Cigarettes (bil.)	484.7	471.4	457.90	40.5	--	--	--	--	--	--
Large cigars (mil.)[4]	3,166.0	3,552.0	3721.00	316.7	--	--	--	--	--	--

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

World Agriculture

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

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99 F	1999/2000 F
					Million units					
Wheat										
Area (hectares)	231.4	222.5	222.9	222.0	214.5	219.2	230.3	227.9	224.7	216.7
Production (metric tons)	588.0	542.9	562.4	558.8	524.0	538.5	582.8	609.3	587.8	584.7
Exports (metric tons[1]	101.1	111.2	113.0	101.5	100.8	98.8	101.5	100.9	100.1	101.6
Consumption (metric tons)[2]	561.9	555.5	550.3	561.7	547.3	550.1	575.6	584.0	590.5	590.7
Ending stocks (metric tons)[3]	145.0	132.5	144.5	141.6	118.3	106.7	113.8	139.2	136.5	130.5
Coarse grains										
Area (hectares)	316.4	321.9	323.5	316.8	322.3	313.3	321.9	311.0	308.5	303.8
Production (metric tons)	828.8	810.4	871.5	798.8	871.2	802.9	908.3	882.9	889.7	876.5
Exports (metric tons[1]	88.8	95.6	92.2	85.0	97.5	87.1	94.4	85.7	96.5	94.0
Consumption (metric tons)[2]	817.2	809.8	843.6	838.5	857.4	842.4	877.4	875.4	872.2	873.6
Ending stocks (metric tons)[3]	134.8	135.4	163.2	123.5	137.4	97.9	128.7	136.2	153.7	156.6
Rice, milled										
Area (hectares)	146.6	147.4	146.4	144.9	147.4	148.1	149.8	151.3	152.2	153.8
Production (metric tons)	352.1	354.7	355.7	355.4	364.5	371.4	380.4	386.7	391.7	396.8
Exports (metric tons[1]	12.2	14.3	14.9	16.3	20.9	19.7	18.8	27.3	24.3	23.2
Consumption (metric tons)[2]	347.4	356.7	357.7	358.1	366.6	371.3	379.6	383.3	389.0	394.4
Ending stocks (metric tons)[3]	59.1	57.1	55.1	52.4	50.4	50.4	51.3	54.6	57.4	59.8
Total grains										
Area (hectares)	694.4	691.8	692.8	683.7	684.2	680.6	702.0	690.2	685.4	674.3
Production (metric tons)	1,768.9	1,708.0	1,789.6	1,713.0	1,759.7	1,712.8	1,871.5	1,878.9	1,869.2	1,858.0
Exports (metric tons[1]	202.1	221.1	220.1	202.8	219.2	205.6	214.7	213.9	220.9	218.8
Consumption (metric tons)[2]	1,726.5	1,722.0	1,751.6	1,758.3	1,771.3	1,763.8	1,832.6	1,842.7	1,851.7	1,858.7
Ending stocks (metric tons)[3]	338.9	325.0	362.8	317.5	306.1	255.0	293.8	330.0	347.6	346.9
Oilseeds										
Crush (metric tons)	176.7	185.1	184.4	190.1	208.1	217.3	219.2	227.4	237.8	246.3
Production (metric tons)	215.7	224.3	227.5	229.4	261.9	258.4	262.0	287.0	293.6	297.1
Exports (metric tons)	33.4	37.6	38.2	38.7	44.1	44.3	49.6	53.9	54.5	56.8
Ending stocks (metric tons)	23.4	21.9	23.6	20.3	27.2	22.2	17.1	24.8	28.5	27.8
Meals										
Production (metric tons)	119.3	125.2	125.2	131.7	142.1	147.2	149.7	155.1	163.1	168.1
Exports (metric tons)	40.7	42.2	40.8	44.9	46.7	49.7	50.7	51.8	54.5	55.8
Oils										
Production (metric tons)	58.1	60.6	61.1	63.7	69.6	73.0	75.9	76.3	81.3	85.6
Exports (metric tons)	20.5	21.3	21.3	24.3	27.1	26.0	29.0	29.8	31.2	32.2
Cotton										
Area (hectares)	33.2	34.8	32.6	30.6	32.2	35.9	33.8	33.8	33.0	32.8
Production (bales)	87.1	95.7	82.5	77.1	85.9	93.1	89.6	91.6	84.5	87.3
Exports (bales)	29.6	28.5	25.5	26.8	28.4	27.8	26.8	26.7	23.5	25.7
Consumption (bales)	85.5	85.7	85.5	85.3	85.5	86.9	89.1	88.5	85.0	87.8
Ending stocks (bales)	27.8	37.6	35.4	27.6	29.9	35.8	38.2	40.8	42.0	41.3
	1991	1992	1993	1994	1995	1996	1,997	1,998	1999 F	2000 F
Red meat[4]										
Production (metric tons)	117.7	117.3	119.3	124.6	129.5	124.2	127.9	131.4	132.8	133.1
Consumption (metric tons)	116.1	115.7	118.3	123.6	127.8	121.4	125.1	128.6	130.6	131.3
Exports (metric tons)[1]	7.5	7.4	7.4	8.1	8.2	8.4	9.0	8.9	9.0	9.3
Poultry[4]										
Production (metric tons)	39.6	38.0	40.5	43.2	47.5	50.4	52.7	53.5	55.6	57.4
Consumption (metric tons)	38.4	37.0	39.4	42.0	47.0	49.7	51.9	52.4	54.1	56.0
Exports (metric tons)[1]	2.8	2.4	2.8	3.6	4.5	5.2	5.6	5.7	5.9	6.2
Dairy										
Milk production (metric tons)[5]	377.6	378.4	377.6	378.4	380.7	379.8	381.2	383.8	386.5	--

-- = Not available. F = forecast. 1. Excludes intra-EU trade but includes intra-FSU trade. 2. Where stocks data are not available, consumption includes stock changes. 3. Stocks data are based on differing marketing years and do not represent levels at a given date. Data not available for all countries. 4. Calendar year data. 1990 data correspond with 1989/90, etc. 5. Data prior to 1989 no longer comparable.

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

U.S. Agricultural Trade

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

	Annual		1998	1999					
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
Export commodities										
Wheat, f.o.b. vessel, Gulf ports ($/bu.)	5.63	4.35	3.44	3.43	3.05	3.01	2.75	2.99	3.08	2.92
Corn, f.o.b. vessel, Gulf ports ($/bu.)	4.17	2.98	2.59	2.43	2.36	2.36	2.12	2.20	2.21	2.18
Grain sorghum, f.o.b. vessel, Gulf ports ($/bu.)	3.90	2.89	2.54	2.29	2.23	2.22	1.94	2.12	2.02	1.96
Soybeans, f.o.b. vessel, Gulf ports ($/bu.)	7.88	7.94	6.37	5.73	4.88	4.87	4.61	5.00	5.18	5.01
Soybean oil, Decatur (¢/lb.)	23.75	23.33	25.78	25.21	17.85	16.50	15.29	16.50	16.79	16.08
Soybean meal, Decatur, ($/ton)	246.67	266.70	162.74	135.70	133.20	139.07	132.73	141.69	150.64	153.57
Cotton, 7-market avg. spot (¢/lb.)	77.93	69.62	67.04	67.61	55.55	53.74	49.23	49.72	48.39	49.41
Tobacco, avg. price at auction (¢/lb.)	183.20	182.74	179.77	186.53	--	--	149.96	163.99	175.03	181.47
Rice, f.o.b., mill, Houston ($/cwt)	19.64	20.88	18.95	18.25	17.31	17.05	17.00	16.48	16.00	16.00
Inedible tallow, Chicago (¢/lb.)	20.13	20.75	17.67	16.98	10.40	11.49	11.50	11.69	14.38	16.50
Import commodities										
Coffee, N.Y. spot ($/lb.)	1.29	2.05	1.39	1.11	1.14	1.09	0.97	0.93	0.86	0.95
Rubber, N.Y. spot (¢/lb.)	72.88	55.40	40.57	40.26	35.75	34.64	33.60	33.63	34.32	37.58
Cocoa beans, N.Y. ($/lb.)	0.62	0.69	0.72	0.71	0.43	0.48	0.46	0.43	0.43	0.42

Information contact: Jenny Gonzales (202) 694-5296, Mae Dean Johnson (202) 694-5299, Mary Teymourian (202) 694-5173 for coffee, rubber, cocoa beans, and tobacco.

Table 25—Trade Balance

	Fiscal Year			1998	1999					
	1998	1999	2000 P	Sep	Apr	May	Jun	Jul	Aug	Sep
					$ million					
Exports										
Agricultural	53,730	49,102	50,000	3,467	3,850	3,649	3,806	3,718	3,949	3,931
Nonagricultural	585,320	586,652	--	48,198	49,339	48,401	49,665	45,341	49,348	50,418
Total [1]	639,050	635,754	--	51,665	53,189	52,050	53,471	49,059	53,297	54,349
Imports										
Agricultural	37,007	37,447	38,000	2,919	3,380	3,225	3,285	2,899	2,990	2,883
Nonagricultural	858,893	938,811	--	74,649	76,473	76,927	84,204	83,429	85,723	86,377
Total[2]	895,900	976,258	--	77,568	79,853	80,152	87,489	86,328	88,713	89,260
Trade Balance										
Agricultural	16,723	11,655	12,000	548	470	424	521	819	959	1,048
Nonagricultural	-273,573	-352,159	--	-26,451	-27,134	-28,526	-34,539	-38,088	-36,375	-35,959
Total	-256,850	-340,504	--	-25,903	-26,664	-28,102	-34,018	-37,269	-35,416	-34,911

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

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

	Annual			1998	1999					
	1996	1997	1998	Jul	Feb	Mar	Apr	May	Jun	Jul
					1990=100					
Total U.S. trade	100.8	111.9	115.1	118.1	109.4	109.4	109.1	108.9	108.4	108.1
Agricultural trade										
U.S. markets	101.0	109.6	115.5	117.5	110.9	111.7	111.1	111.0	110.6	110.4
U.S. competitors	98.7	109.1	113.9	117.1	111.7	111.1	110.4	109.7	109.4	109.1
High-value products										
U.S. markets	100.4	108.2	111.9	114.6	108.3	109.5	108.6	108.3	108.2	108.2
U.S. competitors	100.1	110.9	114.6	117.2	110.8	110.0	109.5	108.9	108.7	108.3
Corn										
U.S. markets	96.4	107.1	113.3	117.8	106.5	108.3	108.2	108.8	108.1	107.8
U.S. competitors	90.1	97.4	100.2	102.1	97.4	97.1	97.8	98.1	97.3	97.2
Soybeans										
U.S. markets	96.0	107.9	113.9	117.2	105.9	106.0	105.4	105.3	104.5	103.8
U.S. competitors	80.8	82.2	84.9	86.3	105.8	105.4	101.3	101.2	103.6	105.0
Wheat										
U.S. markets	100.7	105.4	112.2	112.7	112.6	114.0	115.5	116.7	117.6	119.1
U.S. competitors	102.1	109.8	116.0	119.7	115.8	116.0	115.0	113.7	113.7	114.0
Vegetables										
U.S. markets	105.6	112.4	117.8	120.0	115.8	116.9	115.6	114.7	114.8	115.3
U.S. competitors	100.5	112.0	114.1	116.0	107.9	106.9	106.9	106.5	105.9	105.4
Red meats										
U.S. markets	93.3	100.4	109.0	113.7	101.5	103.2	102.5	103.1	102.8	102.5
U.S. competitors	98.0	107.9	112.8	116.2	111.1	111.0	110.7	110.0	110.3	110.1
Fruits & fruit juices										
U.S. markets	101.3	111.3	114.1	117.1	110.9	112.2	111.4	111.1	111.0	111.3
U.S. competitors	98.2	107.2	111.7	114.3	111.7	111.1	110.0	109.6	109.7	109.6
Cotton										
U.S. markets	95.5	105.7	123.8	128.0	114.0	115.6	115.3	114.8	113.1	112.9
U.S. competitors	101.6	103.0	106.8	108.8	107.2	108.1	109.4	109.0	110.1	111.0
Poultry										
U.S. markets	102.8	111.9	109.2	106.5	117.0	117.6	117.7	116.7	116.3	115.6
U.S. competitors	95.7	107.3	109.9	111.8	110.8	110.0	108.9	108.4	108.5	108.4

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. The "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. 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: Andy Jerardo (202) 694-5323*

Note: The indices have recently been revised to reflect a rebasing of the Russian ruble and to correct errors in the CPI data for Hong Kong and Taiwan. The complete corrected series is online at the at the Mann Library URL.

Table 27—U.S. Agricultural Exports & Imports

	Fiscal Year			Sep		Fiscal Year			Sep	
	1998	1999	2000 P	1998	1999	1998	1999	2000 P	1998	1999
	1,000 units					*$ million*				
EXPORTS										
Animals, live	--	--	--	--	--	538	509	--	19	24
Meats and preps., excl. poultry (mt)[1]	2,064	2,061	1,700	159	176	4,507	4,460	4,400	336	392
Dairy products	--	--	--	--	--	925	897	900	79	77
Poultry meats (mt)	2,663	2,377	2,400	147	204	2,347	1,743	1,800	140	153
Fats, oils, and greases (mt)	1,365	1,395	1,400	124	87	655	561	--	55	34
Hides and skins, incl. furskins	--	--	--	--	--	1,358	1,108	1,100	88	84
Cattle hides, whole (no.)	18,992	17,845	--	1,469	1,346	969	844	--	71	66
Mink pelts (no.)	2,990	4,172	--	75	200	83	98	--	2	5
Grains and feeds (mt)[2]	87,289	104,576	--	7,315	9,295	13,961	14,272	14,400	1,027	1,178
Wheat (mt)[3]	25,791	28,806	31,000	2,456	2,476	3,759	3,648	4,200	301	303
Wheat flour (mt)	465	958	800	58	129	117	177	--	11	18
Rice (mt)	3,310	3,076	3,300	200	165	1,132	1,010	1,000	70	49
Feed grains, incl. products (mt)[4]	44,564	58,398	54,400	3,623	5,541	5,187	5,821	5,200	352	519
Feeds and fodders (mt)	11,704	11,800	11,900	858	852	2,421	2,252	2,300	179	167
Other grain products (mt)	1,455	1,538	--	120	132	1,345	1,363	--	115	122
Fruits, nuts, and preps. (mt)	3,633	3,439	--	257	262	3,977	3,805	4,800	313	318
Fruit juices, incl. froz. (1,000 hectoliters)	10,658	12,317	--	869	1,192	653	735	--	55	65
Vegetables and preps.	--	--	--	--	--	4,168	4,245	2,700	295	322
Tobacco, unmanufactured (mt)	208	205	200	10	7	1,448	1,376	1,400	77	51
Cotton, excl. linters (mt)[5]	1,552	884	1,300	61	32	2,517	1,309	1,700	97	44
Seeds (mt)	816	579	--	25	42	827	800	900	45	53
Sugar, cane or beat (mt)	123	158	--	11	14	48	56	--	4	5
Oilseeds and products (mt)	36,074	33,569	36,700	1,369	2,731	10,984	8,606	8,300	439	721
Oilseeds (mt)	24,358	24,202	--	879	2,017	6,818	5,690	--	240	507
Soybeans (mt)	23,394	22,974	24,900	758	1,919	6,117	4,748	4,700	169	375
Protein meal (mt)	8,666	6,726	--	296	509	1,975	1,101	--	51	87
Vegetable oils (mt)	3,049	2,642	--	193	204	2,191	1,815	--	148	127
Essential oils (mt)	46	47	--	4	3	533	507	--	44	37
Other	--	--	--	--	--	4,284	4,112	--	353	372
Total	--	--	--	--	--	53,730	49,102	50,000	3,467	3,931
IMPORTS										
Animals, live	--	--	--	--	--	1,670	1,439	1,500	149	119
Meats and preps., excl. poultry (mt)	1,230	1,398	1,300	104	118	2,718	3,088	3,100	224	275
Beef and veal (mt)	857	943	--	70	81	1,761	2,047	--	144	188
Pork (mt)	271	337	--	26	29	686	721	--	59	63
Dairy products	--	--	--	--	--	1,368	1,572	1,500	120	133
Poultry and products	--	--	--	--	--	207	201	--	15	18
Fats, oils, and greases (mt)	80	90	--	7	8	59	63	--	5	5
Hides and skins, incl. furskins (mt)	--	--	--	--	--	184	146	--	11	9
Wool, unmanufactured (mt)	45	29	--	2	1	151	75	--	5	3
Grains and feeds	--	--	--	--	--	2,919	2,943	3,000	264	266
Fruits, nuts, and preps., excl. juices (mt)[6]	7,581	8,171	8,100	473	546	3,982	4,619	5,400	254	285
Bananas and plantains (mt)	4,175	4,418	4,300	330	386	1,214	1,212	1,200	102	97
Fruit juices (1,000 hectoliters)	26,577	31,655	30,000	1,822	2,616	669	772	--	44	63
Vegetables and preps.	--	--	--	--	--	4,249	4,527	4,500	277	309
Tobacco, unmanufactured (mt)	241	217	200	23	20	822	742	800	65	67
Cotton, unmanufactured (mt)	10	144	--	1	11	11	150	--	0	5
Seeds (mt)	257	357	--	11	22	422	457	--	24	29
Nursery stock and cut flowers	--	--	--	--	--	1,082	1,076	1,100	87	90
Sugar, cane or beet (mt)	2,170	1,692	NA	329	167	758	606	--	122	72
Oilseeds and products (mt)	4,314	3,899	4,000	381	282	2,243	2,022	2,100	200	144
Oilseeds (mt)	1,028	1,000	--	54	42	371	326	--	18	14
Protein meal (mt)	1,277	1,131	--	113	89	188	147	--	15	12
Vegetable oils (mt)	2,010	1,769	--	214	151	1,684	1,549	--	168	118
Beverages, excl. fruit juices (1,000 hectoliters)	--	--	--	--	--	3,705	4,258	--	320	360
Coffee, tea, cocoa, spices (mt)	2,369	2,520	--	186	191	6,056	5,306	--	419	362
Coffee, incl. products (mt)	1,155	1,294	1,300	88	95	3,587	2,967	3,000	214	188
Cocoa beans and products (mt)	875	865	900	72	68	1,701	1,531	1,600	143	113
Rubber and allied gums (mt)	1,162	1,148	1,200	126	91	1,027	739	800	92	54
Other	--	--	--	--	--	2,703	2,643	--	221	215
Total	--	--	--	--	--	37,007	37,447	38,000	2,919	2,883

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

Information Contact: Mary Fant (202) 694-5272

Table 28—U.S. Agricultural Exports by Region

Region & country	Fiscal year			1998	1999					
	1997	1998	1999	Sep	Apr	May	Jun	Jul	Aug	Sep
					$ million					
WESTERN EUROPE	9,617	8,859	7,498	484	487	526	453	418	592	494
European Union[1]	8,997	8,522	6,928	455	464	498	414	382	404	398
Belgium-Luxembourg	715	666	602	58	45	62	35	32	38	39
France	548	538	380	21	24	22	20	24	22	20
Germany	1,376	1,294	1,045	76	63	80	49	56	57	61
Italy	792	729	573	32	32	43	35	19	36	22
Netherlands	2,011	1,792	1,575	79	131	121	94	70	74	92
United Kingdom	1,289	1,300	1,123	86	77	88	89	90	84	80
Portugal	243	186	131	9	9	11	4	5	10	9
Spain, incl. Canary Islands	1,087	1,132	772	50	25	31	45	37	37	31
Other Western Europe	620	336	570	28	23	29	39	36	188	96
Switzerland	506	236	456	17	16	23	21	29	171	88
EASTERN EUROPE	317	320	190	11	14	13	17	15	9	9
Poland	164	139	73	3	9	6	5	6	5	5
Former Yugoslavia	72	97	47	3	1	1	4	4	2	2
Romania	37	31	18	1	1	2	1	0	0	0
NEWLY INDEPENDENT STATES	1,593	1,456	801	34	72	86	85	121	102	88
Russia	1,281	1,103	461	6	20	68	57	61	71	48
ASIA[2]	26,436	21,992	20,412	1,312	1,680	1,446	1,659	1,537	1,648	1,663
West Asia (Mideast)	2,562	2,286	1,977	123	144	130	160	196	162	127
Turkey	742	658	448	34	35	36	50	46	19	13
Iraq	50	131	9	--	0	--	0	--	--	--
Israel, incl. Gaza and W. Bank	543	389	417	13	34	26	37	51	24	29
Saudi Arabia	630	535	468	34	34	26	46	31	43	30
South Asia	728	626	500	37	30	11	32	29	32	47
Bangladesh	123	114	165	11	3	2	9	8	15	21
India	152	163	190	13	12	5	18	12	8	17
Pakistan	418	275	89	6	4	4	3	4	2	1
China	1,774	1,514	900	51	52	42	34	35	73	150
Japan	10,713	9,469	8,931	591	794	695	730	636	698	704
Southeast Asia	3,136	2,288	2,204	135	163	169	180	168	195	174
Indonesia	768	529	492	31	35	40	59	33	41	36
Philippines	898	751	730	52	65	59	68	61	69	68
Other East Asia	7,523	5,808	5,799	375	497	398	524	473	487	461
Korea, Rep.	3,293	2,258	2,479	142	219	161	225	228	220	191
Hong Kong	1,640	1,568	1,264	128	87	87	104	88	97	114
Taiwan	2,588	1,975	2,046	104	191	150	194	156	169	156
AFRICA	2,265	2,174	2,108	197	161	142	180	178	171	158
North Africa	1,480	1,475	1,419	119	120	96	98	123	114	99
Morocco	166	139	161	2	19	10	9	16	17	7
Algeria	307	281	220	13	13	8	12	22	30	19
Egypt	928	939	957	99	78	70	73	79	61	68
Sub-Sahara	785	699	689	77	40	46	82	55	56	59
Nigeria	106	140	176	12	12	21	19	9	17	17
S. Africa	239	193	165	17	7	11	18	17	13	13
LATIN AMERICA and CARIBBEAN	9,984	11,362	10,501	822	794	753	743	805	799	851
Brazil	461	566	369	39	13	17	16	22	19	20
Caribbean Islands	1,473	1,487	1,453	105	129	115	110	109	113	106
Central America	1,029	1,137	1,209	87	90	79	83	79	87	82
Colombia	552	606	467	38	43	37	48	34	32	28
Mexico	5,077	5,956	5,675	456	427	421	393	457	449	521
Peru	178	314	347	35	30	25	30	31	23	24
Venezuela	552	516	457	24	33	28	33	29	33	29
CANADA	6,620	7,022	6,957	558	587	616	615	586	556	592
OCEANIA	534	545	499	49	42	39	43	37	50	36
TOTAL	57,365	53,730	49,102	3,467	3,850	3,649	3,806	3,718	3,949	3,931

Based on fiscal year beginning October 1 and ending September 30. 1. Austria, Finland, and Sweden are included in the European Union.
NOTE: Adjusted for transhipments through Canada for 1997 and 1998 through December 1998, but transhipments are not distributed by country as previously for 1999. *Information contact: Mary Fant (202) 694-5272*

Farm Income

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

		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
						$ billion					
	Final crop output	83.3	81.0	89.0	82.3	100.4	95.8	115.4	112.1	102.0	95.9
	Food grains	7.5	7.3	8.5	8.2	9.5	10.4	10.7	10.1	8.7	7.5
	Feed crops	18.7	19.3	20.1	20.2	20.3	24.5	27.2	27.1	22.9	20.5
	Cotton	5.5	5.2	5.2	5.2	6.7	6.9	7.0	6.3	6.0	5.0
	Oil crops	12.3	12.7	13.3	13.2	14.7	15.5	16.3	19.7	17.2	14.7
	Tobacco	2.7	2.9	3.0	2.9	2.7	2.5	2.8	2.9	3.0	2.4
	Fruits and tree nuts	9.4	9.9	10.2	10.3	10.3	11.1	11.9	13.1	11.7	12.6
	Vegetables	11.5	11.6	11.8	13.7	14.2	15.0	14.4	15.0	15.3	15.3
	All other crops	12.8	13.1	13.7	13.7	14.7	15.0	15.8	16.9	17.3	17.8
	Home consumption	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
	Value of inventory adjustment[1]	2.8	-1.2	3.2	-5.3	7.2	-5.3	9.1	0.9	-0.4	0.1
	Final animal output	90.2	87.3	87.1	92.0	89.7	87.7	92.1	96.5	94.3	95.6
	Meat animals	51.2	50.1	47.7	51.0	46.7	44.9	44.2	49.7	43.6	45.4
	Dairy products	20.2	18.0	19.7	19.3	20.0	19.9	22.8	20.9	24.3	23.8
	Poultry and eggs	15.3	15.2	15.5	17.3	18.5	19.1	22.4	22.2	22.8	22.9
	Miscellaneous livestock	2.5	2.5	2.6	2.9	3.1	3.3	3.6	3.7	3.8	3.8
	Home consumption	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.4
	Value of inventory adjustment[1]	0.4	1.0	1.0	1.1	1.1	0.2	-1.1	-0.4	-0.6	-0.7
	Services and forestry	15.3	15.4	15.3	17.1	18.1	19.9	20.8	22.5	24.6	25.7
	Machine hire and customwork	1.8	1.8	1.8	1.9	2.1	1.9	2.1	2.6	2.3	2.3
	Forest products sold	1.8	1.8	2.2	2.5	2.7	2.8	2.6	2.9	2.8	2.9
	Other farm income	4.5	4.7	4.1	4.6	4.3	5.8	6.2	6.9	8.7	9.1
	Gross imputed rental value of farm dwellings	7.2	7.2	7.2	8.1	9.0	9.4	9.9	10.1	10.8	11.4
	Final agricultural sector output[2]	188.7	183.7	191.4	191.4	208.2	203.5	228.4	231.2	220.8	217.2
Minus	Intermediate consumption outlays:	92.9	94.6	93.4	100.7	104.9	109.7	113.2	120.9	118.7	119.3
	Farm origin	39.5	38.6	38.6	41.3	41.3	41.8	42.7	46.9	44.9	45.1
	Feed purchased	20.4	19.3	20.1	21.4	22.6	23.8	25.2	26.3	25.0	24.2
	Livestock and poultry purchased	14.6	14.1	13.6	14.7	13.3	12.5	11.3	13.8	12.7	13.7
	Seed purchased	4.5	5.1	4.9	5.2	5.4	5.5	6.2	6.7	7.2	7.2
	Manufactured inputs	22.0	23.2	22.7	23.1	24.4	26.2	28.6	29.2	28.3	29.0
	Fertilizers and lime	8.2	8.7	8.3	8.4	9.2	10.0	10.9	10.9	10.7	10.5
	Pesticides	5.4	6.3	6.5	6.7	7.2	7.7	8.5	9.0	9.1	9.1
	Petroleum fuel and oils	5.8	5.6	5.3	5.3	5.3	5.4	6.0	6.2	5.6	6.4
	Electricity	2.6	2.6	2.6	2.7	2.7	3.0	3.2	3.0	2.9	2.9
	Other intermediate expenses	31.4	32.8	32.1	36.2	39.2	41.7	41.8	44.9	45.5	45.2
	Repair and maintenance of capital items	8.6	8.6	8.5	9.2	9.1	9.5	10.3	10.4	10.4	10.4
	Machine hire and customwork	3.6	3.5	3.8	4.4	4.8	4.8	4.7	4.9	5.5	5.4
	Marketing, storage, and transportation	4.2	4.7	4.5	5.6	6.8	7.2	6.9	7.1	6.7	6.8
	Contract labor	1.6	1.6	1.7	1.8	1.8	2.0	2.1	2.6	2.4	2.5
	Miscellaneous expenses	13.5	14.3	13.6	15.2	16.7	18.3	17.8	19.8	20.5	20.1
Plus	Net government transactions:	3.1	2.1	2.7	6.9	1.1	0.2	0.2	0.2	4.6	14.7
	+ Direct government payments	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	22.5
	- Motor vehicle registration and licensing fees	0.4	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5
	- Property taxes	5.9	5.8	6.1	6.2	6.3	6.6	6.7	6.9	7.2	7.3
	Gross value added	98.9	91.2	100.6	97.5	104.5	94.0	115.4	110.4	106.7	112.6
Minus	Capital consumption	18.1	18.2	18.3	18.4	18.6	18.9	19.2	19.3	19.4	19.3
	Net value added[2]	80.7	73.0	82.3	79.2	85.8	75.1	96.2	91.1	87.2	93.3
Minus	Factor payments:	36.0	34.4	34.4	34.6	36.6	37.9	41.3	42.5	43.1	45.3
	Employee compensation (total hired labor)	12.5	12.3	12.3	13.2	13.5	14.3	15.3	16.0	16.9	17.8
	Net rent received by nonoperator landlords	10.0	9.9	11.1	10.7	11.5	11.0	13.0	12.9	12.0	13.8
	Real estate and non-real estate interest	13.4	12.1	11.0	10.6	11.5	12.6	13.0	13.5	14.2	13.8
	Net farm income[2]	44.7	38.7	47.9	44.5	49.2	37.2	54.9	48.6	44.1	48.0

Values in last two columns are preliminary or forecast. 1. A positive value of inventory change represents current-year production not sold by December 1. A negative value is an offset to production from prior years included in current-year sales. 2. Final sector output is the gross value of commodities and services produced within a year. Net value added is the sector's contribution to the National economy and is the sum of income from production earned by all factors of production. Net farm income is farm operators' share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development. *Information contact: Roger Strickland (202)694-5592 or rogers@econ.ag.gov*

Table 30—Farm Income Statistics

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
						$ billion				
Cash Income statement:										
1. Cash receipts	169.5	167.9	171.3	177.9	181.3	188.1	199.1	207.6	196.8	191.7
Crops[1]	80.3	82.1	85.7	87.4	93.1	101.0	106.2	111.1	102.2	95.7
Livestock	89.2	85.8	85.6	90.4	88.2	87.1	93.0	96.5	94.5	96.0
2. Direct Government payments	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	22.5
3. Farm-related income[2]	8.1	8.3	8.1	9.0	9.1	10.5	11.0	12.4	13.8	14.3
4. Gross cash income (1+2+3)	186.9	184.3	188.6	200.3	198.2	205.8	217.4	227.5	222.8	228.4
5. Cash expenses[3]	134.1	134.0	133.3	141.0	147.1	153.2	159.9	169.0	167.8	170.6
6. Net cash income (4-5)	52.8	50.4	55.2	59.3	51.1	52.6	57.5	58.5	54.9	57.9
Farm income statement:										
7. Gross cash income (4)	186.9	184.3	188.6	200.3	198.2	205.8	217.4	227.5	222.8	228.4
8. Noncash income[4]	7.9	7.8	7.8	8.7	9.6	9.9	10.3	10.6	11.3	11.8
9. Value of inventory adjustment	3.3	-0.2	4.2	-4.2	8.3	-5.0	8.0	0.5	-1.0	-0.6
10. Gross farm income (7+8+9)	198.0	191.9	200.5	204.8	216.1	210.7	235.7	238.7	233.1	239.7
11. Total production expenses	153.3	153.3	152.6	160.2	166.8	173.5	180.8	190.0	189.0	191.7
12. Net farm income (10-11)	44.7	38.7	47.9	44.5	49.2	37.2	54.9	48.6	44.1	48.0

Values for last 2 years are preliminary or forecast. Numbers in parentheses indicate the combination of items required to calculate an item. Totals may not add due to rounding. 1. Includes commodities placed under CCC loans and profits made on loans redeemed. 2. Income from custom labor, machine hire, recreational activities, forest product sales, and other farm sources. 3. Excludes depreciation and perquisites to hired labor. Excludes farm operator dwellings. 4. Value of farm products consumed on farms where produced plus the imputed rental value of farm dwellings. *Information contact: Roger Strickland (202) 694-5592 or rogers@econ.ag.gov*

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

	1992	1993	1994	1995	1996	1997	1998	1999
				$ per farm				
Net cash farm business income[2]	11,320	11,248	11,389	11,218	13,502	12,676	14,357	--
Less depreciation[3]	5,187	6,219	6,466	6,795	6,906	6,578	7,409	--
Less wages paid to operator[4]	216	454	425	522	531	513	637	--
Less farmland rental income[5]	360	534	701	769	672	568	543	--
Less adjusted farm business income due to other household(s)[6]	961	872	815	649	1,094	1,505	1,332	--
				$ per farm operator household				
Equals adjusted farm business income	4,596	3,168	2,981	2,484	4,300	3,513	4,436	--
Plus wages paid to operator	216	454	425	522	531	513	637	--
Plus net income from farmland rental[7]	360	--	--	1,053	1,178	945	868	--
Equals farm self-employment income	5,172	3,623	3,407	4,059	6,009	4,971	5,941	--
Plus other farm-related earnings[8]	2,008	1,192	970	661	1,898	1,234	1,165	--
Equals earnings of the operator household from farming activities	7,180	4,815	4,376	4,720	7,906	6,205	7,106	6,469
Plus earnings of the operator household from off-farm sources[9]	35,731	35,408	38,092	39,671	42,455	46,358	52,628	54,443
Equals average farm operator household income	42,911	40,223	42,469	44,392	50,361	52,562	59,734	60,912
				$ per U.S. household				
U.S. average household income[10]	38,840	41,428	43,133	44,938	47,123	49,692	51,855	--
				Percent				
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	106.9	105.8	115.2	--
Average operator household earnings from farming activities as percent of average operator household income	16.7	12.0	10.3	10.6	15.7	11.8	11.9	--

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

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

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
					$ billion					
Farm assets	841.5	834.8	861.9	891.5	915.3	945.8	980.7	1,022.7	1,027.4	1,035.5
Real estate	620.0	615.4	634.3	658.8	684.0	719.6	746.3	783.1	794.4	802.3
Livestock and poultry[1]	70.9	68.1	71.0	72.8	67.9	57.8	60.3	66.8	57.0	57.0
Machinery and motor vehicles	86.3	85.9	85.4	86.5	87.5	88.5	88.9	88.1	91.0	90.0
Crops stored[2,3]	23.2	22.2	24.2	23.3	23.3	27.4	31.7	29.9	30.0	30.0
Purchased inputs	2.8	2.6	3.9	3.8	5.0	3.4	4.4	5.1	5.0	5.2
Financial assets	38.3	40.5	43.1	46.3	47.6	49.1	49.1	49.7	50.0	51.0
Total farm debt	138.0	139.2	139.1	142.0	146.8	150.8	156.1	165.4	172.0	171.0
Real estate debt[3]	74.7	74.9	75.4	76.0	77.7	79.3	81.7	85.4	88.8	87.7
Non-real estate debt[4]	63.2	64.3	63.6	65.9	69.1	71.5	74.4	80.1	83.2	83.4
Total farm equity	703.5	695.6	722.8	749.5	768.5	795.0	824.6	857.3	855.4	864.5
					Percent					
Selected ratios										
Debt to equity	19.6	20.0	19.2	18.9	19.1	19.0	18.9	19.3	20.1	19.8
Debt to assets	16.4	16.7	16.1	15.9	16.0	15.9	15.9	16.2	16.7	16.5

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

Table 33—Cash Receipts from Farming

	Annual			1998	1999					
	1996	1997	1998	Aug	Mar	Apr	May	Jun	Jul	Aug
					$ million					
Commodity sales[1]	199,138	207,611	196,761	15,344	14,941	12,921	13,034	14,322	14,353	15,249
Livestock and products	92,956	96,535	94,539	8,289	8,712	6,820	7,209	8,090	8,061	8,596
Meat animals	44,154	49,682	43,604	4,004	4,612	3,107	3,469	4,292	3,439	4,598
Dairy products	22,785	20,940	24,312	2,004	2,148	1,772	1,857	1,788	1,836	2,016
Poultry and eggs	22,432	22,234	22,806	2,072	1,773	1,780	1,716	1,807	1,808	1,773
Other	3,585	3,679	3,816	209	179	161	167	203	978	209
Crops	106,182	111,076	102,222	7,055	6,229	6,101	5,825	6,232	6,292	6,653
Food grains	10,719	10,137	8,734	901	516	414	340	806	1,182	794
Feed crops	27,185	27,101	22,927	1,542	1,360	922	1,068	1,489	1,128	1,352
Cotton (lint and seed)	6,983	6,346	6,013	84	294	111	110	90	54	97
Tobacco	2,795	2,874	2,989	431	19	5	0	0	10	474
Oil-bearing crops	16,344	19,673	17,198	610	753	696	605	693	521	437
Vegetables and melons	14,439	14,961	15,337	1,583	1,182	1,337	1,573	1,424	1,440	1,635
Fruits and tree nuts	11,928	13,074	11,727	949	596	666	657	807	980	909
Other	15,789	16,909	17,297	954	1,508	1,949	1,472	923	977	954
Government payments	7,340	7,495	12,220	1,702	664	566	228	2,365	677	1,033
Total	206,478	215,107	208,981	17,046	15,604	13,487	13,261	16,688	15,030	16,282

Annual values for the most recent year are preliminary. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. *Information contacts: Larry Traub (202) 694-5593 or ltraub@econ.ag.gov and Cheryl Steele (202) 694-5591 or cherylj@econ.ag.gov. To receive current monthly cash receipts via e-mail contact Larry Traub.*

Table 34—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops[1]				Total[1]			
			Jul	Aug			Jul	Aug			Jul	Aug
	1997	1998	1999	1999	1997	1998	1999	1999	1997	1998	1999	1999
						$ million[2]						
NORTH ATLANTIC												
Maine	276	282	23	23	213	224	15	28	489	506	37	50
New Hampshire	68	69	6	5	84	82	5	9	153	151	11	14
Vermont	414	472	31	39	85	84	14	5	500	557	44	43
Massachusetts	114	112	11	9	417	395	27	35	531	507	38	44
Rhode Island	9	9	1	1	54	56	5	4	63	65	6	4
Connecticut	223	228	22	18	278	281	15	10	501	509	37	27
New York	1,828	2,092	172	166	1,007	1,054	117	104	2,836	3,146	289	269
New Jersey	168	178	35	11	626	650	72	79	794	828	107	89
Pennsylvania	2,808	2,914	234	234	1,324	1,261	80	96	4,132	4,175	313	330
NORTH CENTRAL												
Ohio	1,875	1,848	155	155	3,361	3,124	198	176	5,237	4,973	353	331
Indiana	1,928	1,639	133	115	3,838	3,245	176	138	5,766	4,885	309	254
Illinois	1,928	1,575	112	130	7,055	6,167	350	327	8,984	7,742	462	457
Michigan	1,365	1,323	117	107	2,234	2,158	139	138	3,598	3,480	256	246
Wisconsin	4,066	4,492	371	437	1,721	1,701	78	112	5,787	6,193	449	549
Minnesota	3,992	3,755	262	318	4,006	3,925	167	177	7,998	7,680	429	495
Iowa	5,613	4,778	426	367	7,331	6,217	237	238	12,944	10,994	663	605
Missouri	2,771	2,420	182	218	2,631	2,262	135	86	5,402	4,682	318	303
North Dakota	598	549	45	65	2,668	2,455	133	158	3,267	3,004	178	223
South Dakota	1,781	1,557	130	160	2,401	1,951	74	104	4,182	3,508	205	264
Nebraska	5,508	5,124	457	527	4,295	3,725	152	198	9,803	8,848	608	726
Kansas	4,936	4,537	361	489	3,609	3,247	383	169	8,544	7,784	743	658
SOUTHERN												
Delaware	579	609	51	42	176	164	20	25	754	774	71	67
Maryland	928	949	88	66	607	571	57	43	1,535	1,520	145	109
Virginia	1,542	1,561	143	128	864	768	60	78	2,406	2,328	202	205
West Virginia	328	336	31	28	69	69	7	8	397	405	38	37
North Carolina	4,723	3,917	283	276	3,507	3,247	144	399	8,230	7,164	427	675
South Carolina	802	763	62	65	885	748	51	105	1,687	1,511	113	170
Georgia	3,402	3,408	266	261	2,350	2,047	83	118	5,752	5,454	349	378
Florida	1,400	1,407	168	149	5,116	5,355	250	232	6,516	6,762	418	381
Kentucky	1,972	2,134	435	163	1,571	1,787	42	36	3,543	3,920	477	199
Tennessee	1,028	1,038	93	82	1,245	1,177	44	50	2,273	2,216	137	132
Alabama	2,428	2,587	201	210	788	696	29	24	3,216	3,283	230	234
Mississippi	2,004	2,169	169	167	1,476	1,285	34	30	3,480	3,454	202	197
Arkansas	3,346	3,250	263	261	2,379	2,172	77	82	5,724	5,422	341	344
Louisiana	659	645	61	60	1,510	1,245	27	46	2,168	1,891	88	106
Oklahoma	3,036	2,838	244	325	1,138	1,062	153	91	4,174	3,900	397	416
Texas	8,147	8,220	700	813	5,060	4,986	353	350	13,208	13,206	1,053	1,164
WESTERN												
Montana	965	865	73	130	1,058	934	45	49	2,023	1,799	118	179
Idaho	1,405	1,585	143	177	1,878	1,735	91	134	3,283	3,320	234	310
Wyoming	686	681	25	55	191	170	8	15	876	850	33	71
Colorado	2,875	2,857	211	319	1,303	1,453	121	122	4,177	4,310	332	441
New Mexico	1,366	1,437	112	151	551	513	63	48	1,917	1,950	175	199
Arizona	906	943	83	112	1,276	1,425	67	44	2,183	2,368	150	156
Utah	706	736	65	58	256	245	20	25	962	981	85	83
Nevada	187	194	17	17	136	143	16	12	322	337	32	29
Washington	1,622	1,730	142	147	3,747	3,424	267	370	5,370	5,155	409	517
Oregon	803	762	70	80	2,427	2,330	198	249	3,229	3,092	268	329
California	6,310	6,845	572	649	19,827	17,771	1,353	1,441	26,137	24,616	1,925	2,091
Alaska	28	27	2	2	21	20	2	2	49	47	5	5
Hawaii	86	92	8	8	424	418	35	37	510	510	43	44
U.S.	96,535	94,539	8,061	8,596	111,076	102,222	6,292	6,653	207,611	196,761	14,353	15,249

Annual values for the most recent year are preliminary. Estimates as of end of current month. Totals may not add because of rounding. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period.
Information contacts: Larry Traub (202) 694-5593 or ltraub@econ.ag.gov and Cheryl Steele (202) 694-5591 or cherylj@econ.ag.gov. To receive current monthly cash receipts via e-mail contact Larry Traub.

Table 35—CCC Net Outlays by Commodity & Function

	Fiscal year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999 E	2000 E
	$ million									
COMMODITY/PROGRAM										
Feed grains:										
Corn	2,387	2,105	5,143	625	2,090	2,021	2,587	2,873	5,204	3,285
Grain sorghum	243	190	410	130	153	261	284	296	483	314
Barley	71	174	186	202	129	114	109	168	266	182
Oats	12	32	16	5	19	8	8	17	40	26
Corn and oat products	9	9	10	10	1	0	0	0	0	0
Total feed grains	2,722	2,510	5,765	972	2,392	2,404	2,988	3,354	5,993	3,807
Wheat and products	2,805	1,719	2,185	1,729	803	1,491	1,332	2,187	3,009	1,392
Rice	867	715	887	836	814	499	459	491	802	597
Upland cotton	382	1,443	2,239	1,539	99	685	561	1,132	1,740	1,236
Tobacco	-143	29	235	693	-298	-496	-156	376	69	-163
Dairy	839	232	253	158	4	-98	67	291	467	187
Soybeans	40	-29	109	-183	77	-65	5	139	1,023	2,907
Peanuts	48	41	-13	37	120	100	6	-11	16	-15
Sugar	-20	-19	-35	-24	-3	-63	-34	-30	-48	-42
Honey	19	17	22	0	-9	-14	-2	0	1	-1
Wool and mohair	172	191	179	211	108	55	0	0	6	-6
Operating expense[1]	625	6	6	6	6	6	6	5	5	4
Interest expenditure	745	532	129	-17	-1	140	-111	76	178	400
Export programs[2]	733	1,459	2,193	1,950	1,361	-422	125	212	344	1,020
1988/99 Disaster/tree/ livestock assistance	121	1,054	944	2,566	660	95	130	3	2,278	5
Conservation Reserve Program	0	0	0	0	0	2	1,671	1,693	1,517	1,552
Other conservation programs	0	0	0	0	0	7	105	197	309	367
Other	155	-162	949	-137	-103	320	104	28	682	865
Total	10,110	9,738	16,047	10,336	6,030	4,646	7,256	10,143	18,391	14,112
Function										
Price support loans (net)	418	584	2,065	527	-119	-951	110	1,128	832	1,376
Cash direct payments:[3]										
Production flexibility contract	0	0	0	0	0	5,141	6,320	5,672	5,544	5,042
Market loss assistance	0	0	0	0	0	0	0	0	3,011	0
Deficiency	6,224	5,491	8,607	4,391	4,008	567	-1,118	-7	0	0
Diversion	0	0	0	0	0	0	0	0	0	0
Dairy termination	96	2	0	0	0	0	0	0	0	0
Loan deficiency	21	214	387	495	29	0	0	478	2,653	3,383
Other	0	140	149	171	97	95	7	416	288	11
Conservation Reserve Program	0	0	0	0	0	2	1,671	1,693	1,489	1,517
Other conservation programs	0	0	0	0	0	0	85	156	260	310
Noninsured Assistance (NAP)	0	0	0	0	0	2	52	23	72	89
Total direct payments	6,341	5,847	9,143	5,057	4,134	5,807	7,017	8,431	13,317	10,352
1988-98 crop disaster	6	960	872	2,461	577	14	2	-2	1,945	0
Emergency livestock/tree/DRAP livestock indemn/forage assist.	115	94	72	105	83	81	128	5	333	5
Purchases (net)	646	321	525	293	-51	-249	-60	207	715	148
Producer storage payments	1	14	9	12	23	0	0	0	0	0
Processing, storage, and transportation	240	185	136	112	72	51	33	38	51	48
Export donations ocean transportation	50	139	352	156	50	69	34	40	441	346
Operating expense[1]	625	6	6	6	6	6	6	5	5	4
Interest expenditure	745	532	129	-17	-1	140	-111	76	178	400
Export programs[2]	733	1,459	2,193	1,950	1,361	-422	125	212	344	1,020
Other	190	-403	545	-326	-105	100	-28	3	230	413
Total	10,110	9,738	16,047	10,336	6,030	4,646	7,256	10,143	18,391	14,112

E=Estimated in the FY 2000 Mid-Session Review Budget which was released on June 28, 1999 based on May 1999 supply and demand estimates. 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. Includes cash payments only. Excludes generic certificates in FY 86-96. The CCC outlays shown for 1996-2000 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.* Further detail can be found at www.fsa.usda.gov/dam/BUD/bud1.htm

Food Expenditures

Table 36—Food Expenditures

	Annual			1999			Year-to-date cumulative		
	1997	1998	1999	Aug	Sep	Oct	Aug	Sep	Oct
				$ billion					
Sales[1]									
At home[2]	380.2	395.3	--	34.2	34.5	33.4	266.1	300.6	334.0
Away from home[3]	297.9	301.7	--	30.4	29.1	31.5	225.3	254.4	286.0
				1998 $ billion					
Sales[1]									
At home[2]	371.0	378.5	--	33.6	33.8	32.6	255.0	288.8	321.4
Away from home[3]	289.7	286.0	--	29.5	28.3	30.6	213.8	242.0	272.6
				Percent change from year earlier ($ billion)					
Sales[1]									
At home[2]	3.4	4.0	--	1.9	6.7	-1.5	2.8	3.3	2.8
Away from home[3]	3.0	1.3	--	14.6	17.5	19.3	12.4	12.9	13.6
				Percent change from year earlier (1998 $ billion)					
Sales[1]									
At home[2]	1.0	2.0	--	4.6	9.2	1.3	2.5	3.3	3.1
Away from home[3]	0.2	-1.3	--	17.9	21.1	22.9	12.0	13.0	14.0

-- = Not available. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production. 3. Excludes donations, child nutrition subsidies, and meals furnished to employees, patients, and inmates. *Information contact: Annette Clauson (202) 694-5373*
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 entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," ERS Agr. Econ. Rpt. No. 575, Aug. 1987.

Transportation

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

	Annual			1998	1999					
	1996	1997	1998	Sep	Apr	May R	Jun	Jul	Aug R	Sep P
Rail freight rate index[1] (Dec. 1984=100)										
All products	111.5	112.1	113.4	113.5	112.7	113.2	112.7	112.8	112.7	113.3
Farm products	115.9	120.3	123.9	125.1	121.1	121.1	121.1	121.4	121.4	124.7
Grain food products	108.8	107.6	107.4	107.0	99.3	99.3	99.3	99.3	99.3	99.3
Grain shipments										
Rail carloadings (1,000 cars)[2]	25.2	23.2	22.8	21.7	22.6	22.6	22.2	24.6	26.5	25.9
Barge shipments (mil. ton)[3,4]	3.1	2.6	3.0	1.4	3.7	4.1	4.4	4.3	3.8	2.7
Fresh fruit and vegetable shipments[5]										
Piggy back (mil. cwt)	1.1	1.1	0.9	0.9	0.6	0.9	1.0	0.8	0.8	0.8
Rail (mil. cwt)	1.6	1.7	1.2	0.8	0.9	1.0	1.5	0.9	0.5	0.9
Truck (mil. cwt)	35.7	42.6	42.2	36.3	49.0	54.3	53.6	45.8	42.2	37.6

P= Preliminary. R = Revised. -- = Not available. 1. Department of Labor, Bureau of Labor Statistics. 2. Weekly average; from Association of American Railroads. 3. Shipments on Illinois and Mississippi waterways, U.S. Corps of Engineers. 4. Annual 1996 is 7-month average. 5. 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	--	--

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

Food Supply & Use

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

Commodity	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
					Lbs.					
Red meats[2,3,4]	119.5	115.9	112.3	111.9	114.1	112.2	114.8	115.1	112.8	111.0
Beef	68.6	65.4	63.9	63.1	62.8	61.5	63.6	64.4	65.0	63.8
Veal	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	1.0	0.9
Lamb & mutton	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8
Pork	48.8	48.4	46.4	46.9	49.5	48.9	49.6	49.0	45.9	45.6
Poultry[2,3,4]	51.9	53.9	56.3	58.3	60.8	62.5	63.3	62.9	64.4	64.8
Chicken	39.6	40.9	42.4	44.2	46.7	48.5	49.3	48.8	49.8	50.9
Turkey	12.4	13.1	13.8	14.1	14.1	14.0	14.1	14.1	14.6	13.9
Fish and shellfish[3]	15.1	15.6	15.0	14.8	14.7	14.9	15.1	14.9	14.7	14.5
Eggs[4]	31.8	30.5	30.2	30.1	30.3	30.4	30.6	30.2	30.5	30.7
Dairy products										
Cheese (excluding cottage)[2,5]	23.7	23.8	24.6	25.0	26.0	26.2	26.8	27.3	27.7	28.0
American	11.5	11.0	11.1	11.1	11.3	11.4	11.5	11.8	12.0	12.0
Italian	8.1	8.5	9.0	9.4	10.0	9.8	10.3	10.4	10.8	11.0
Other cheeses[6]	4.1	4.3	4.5	4.6	4.7	5.0	5.0	5.0	5.0	5.1
Cottage cheese	3.9	3.6	3.4	3.3	3.1	2.9	2.8	2.7	2.6	2.7
Beverage milks[2]	222.3	224.2	221.8	221.1	218.3	213.4	213.6	209.8	210.0	206.9
Fluid whole milk[7]	105.7	97.5	90.4	87.3	84.0	80.1	78.8	75.3	74.6	72.7
Fluid lower fat milk[8]	100.5	106.5	108.5	109.9	109.3	106.6	106.1	102.6	101.7	99.8
Fluid skim milk	16.1	20.2	22.9	23.9	25.0	26.7	28.7	31.9	33.7	34.4
Fluid cream products[9]	7.6	7.8	7.6	7.7	8.0	8.0	8.1	8.4	8.7	9.1
Yogurt (excluding frozen)	4.5	4.2	4.0	4.2	4.2	4.3	4.7	5.1	4.8	5.1
Ice cream	17.3	16.1	15.8	16.3	16.3	16.1	16.1	15.7	15.9	16.2
Lowfat ice cream[10]	8.0	8.4	7.7	7.4	7.1	6.9	7.6	7.5	7.6	7.9
Frozen yogurt	--	2.0	2.8	3.5	3.1	3.5	3.5	3.5	2.6	2.1
All dairy products, milk equivalent, milkfat basis[11]	582.5	563.8	568.4	565.6	565.9	574.1	586.0	584.4	575.5	579.8
Fats and oils--total fat content	63.6	60.8	62.8	65.4	67.4	70.2	68.6	66.9	65.8	65.6
Butter and margarine (product weight)	14.8	14.6	15.3	15.0	15.4	15.8	14.7	13.7	13.5	12.8
Shortening	21.5	21.5	22.2	22.4	22.4	25.1	24.1	22.5	22.3	20.9
Lard and edible tallow (direct use)	2.6	2.1	2.4	3.1	4.1	3.9	4.7	4.9	5.3	4.7
Salad and cooking oils	26.3	24.4	24.8	26.7	27.2	26.8	26.3	26.9	26.1	28.7
Fruits and vegetables[12]	635.9	657.3	656.3	660.5	661.1	685.1	689.1	690.4	706.1	710.8
Fruit	272.8	279.1	273.5	266.6	268.0	285.4	284.3	285.4	289.8	294.7
Fresh fruits	120.9	122.8	116.3	113.0	123.5	124.9	126.5	124.6	129.0	133.2
Canned fruit	21.1	21.3	21.0	19.8	22.9	20.7	21.0	17.5	18.8	20.5
Dried fruit	14.9	13.2	12.1	12.3	10.8	12.6	12.9	12.8	11.4	10.8
Frozen fruit	3.6	3.9	3.7	3.6	3.7	3.6	3.6	4.0	3.8	3.5
Selected fruit juices	112.0	117.6	120.1	117.6	106.4	123.3	119.9	126.2	126.6	126.1
Vegetables	363.1	378.2	382.8	393.9	393.2	399.8	404.8	405.0	416.2	416.0
Fresh	167.4	172.2	167.2	167.2	171.1	171.9	177.4	175.1	181.8	185.6
Canning	94.8	102.4	110.7	113.3	111.6	112.1	107.8	110.2	108.5	105.9
Freezing	64.2	67.6	66.8	72.7	70.8	75.1	79.5	79.9	83.9	81.5
Dehydrated and chips	29.2	29.8	31.0	32.8	31.5	32.9	31.7	31.3	34.0	34.5
Pulses	7.5	6.3	7.1	7.8	8.2	7.7	8.5	8.5	8.0	8.5
Peanuts (shelled)	6.9	7.0	6.0	6.5	6.2	6.0	5.8	5.7	5.7	5.8
Tree nuts (shelled)	2.3	2.2	2.4	2.2	2.2	2.2	2.3	1.9	2.0	2.2
Flour and cereal products[13]	175.5	174.5	182.0	183.6	186.2	191.0	194.0	192.5	198.4	200.1
Wheat flour	131.7	129.6	136.0	136.9	138.8	143.3	144.5	141.8	148.8	149.7
Rice (milled basis)	14.3	15.2	16.2	16.8	17.5	17.6	19.2	20.1	18.9	19.5
Caloric sweeteners[14]	132.7	133.1	137.0	137.9	141.2	144.4	147.4	149.9	150.7	154.1
Coffee (green bean equiv.)	9.8	10.1	10.3	10.3	10.0	9.1	8.2	8.0	8.9	9.3
Cocoa (chocolate liquor equiv.)	3.8	4.0	4.3	4.6	4.6	4.3	3.9	3.6	4.2	4.1

-- = Not available. 1. In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, and ending stocks. Calendar-year data, except fresh citrus fruits, peanuts, tree nuts, and rice, which are on crop-year basis. 2. Totals may not add due to rounding. 3. Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 4. Excludes shipments to the U.S. territories. 5. Whole and part-skim milk cheese. Natural equivalent of cheese and cheese products. 6. Includes Swiss, Brick, Muenster, cream, Neufchatel, Blue, Gorgonzola, Edam, and Gouda. 7. Plain and flavored. 8. Plain and flavored, and buttermilk. 9. Heavy cream, light cream, half and half, eggnog, sour cream, and dip. 10. Formerly known as ice milk. 11. Includes condensed and evaporated milk and dry milk products. 12. Farm weight. 13. Includes rye, corn, oats, and barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, and fuel. 14. Dry weight equivalent. *Information contact: Jane E. Allshouse (202) 694-5449*