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In This Issue . . .

Tariff reduction . . . Successful small farms . . .Cotton outlook . . . Credit for minority farmers . . . Nitrogen runoff in Gulf waters

Reducing Tariffs Under Uruguay Round Agreement

Tariffs are considered a highly visible and easily negotiable target in the next round of trade negotiations, to be launched by the World Trade Organization in Seattle on November 30. Under the Uruguay Round Agreement on Agriculture, developed countries agreed to reduce all agricultural tariffs by at least 36 percent, on average, over the period 1995 to 2000, with a minimum reduction of 15 percent per tariff-line (i.e., for a product or products to which the tariff applies). Countries had a great deal of flexibility in deciding how much to cut each agricultural tariff, so average reductions vary by country. The U.S., European Union, Japan, and Canada will each slightly exceed the average requirement. Australia cut 75 percent of its agricultural product tariffs by levels above the required average, resulting in an average reduction of 48 percent. Countries tended to cut the smallest tariffs by the greatest amounts, with most large tariffs reduced by only the minimum amount. In the next round, further reductions, particularly on large tariffs, will no doubt encounter serious resistance.

Cutting Ag Nitrogen Runoff To the Gulf of Mexico

A zone of hypoxic, or oxygen-deficient, water covers about 7,000 square miles of the Gulf of Mexico at peak periods of the year. The primary cause of oxygen deficiency is high loads of nitrogen in the discharge from the Mississippi River, with an estimated 65 percent from agricultural activities. USDA's Economic Research Service analyzed the economic and environmental effects of three strategies for reducing excess nitrogen releases into the Mississippi River basin: reducing nitrogen use, restoring wetlands, and combining wetland restoration with reduction in nitrogen use. To achieve a 20-percent reduction in nitrogen loadings, a policy of restrictions to cut nitrogen fertilizer use by 40 percent represents the most cost-effective strategy (least cost for achieving the targeted reduction), but the combined strategy is nearly as cost-effective.

Weak Demand Dampens Outlook For U.S. Cotton

The U.S. cotton crop is projected to rebound from 1998's decade-low output, but prospects of potential earnings from the larger output are dampened by weak demand and rising stocks. Sluggish U.S. mill demand is the result of persistent competition from manmade fibers and of double-digit growth in imports of textile and apparel products. While higher foreign demand will support increased U.S. exports, China's net exports of cotton are trending upwards, and world prices have been dipping as a result. Increased world economic growth and lower cotton prices are boosting cotton consumption in 1999/2000.

FSA Credit Programs Target Minority Farmers

Racial and ethnic minority farmers often rely on USDA's Farm Service Agency (FSA) loan programs for credit needs, especially in regions where minority farmers are clustered. Because many have limited financial resources, minority family farmers are less likely than other farmers to qualify for credit from private lenders. Loan targeting by FSA sets aside a share of the annual loan funding for farmers who may be socially disadvantaged—a term that includes those who have been subject to racial or ethnic discrimination. Racial and ethnic minorities comprise nearly 7 percent of all FSA direct borrowers in 1999.

What Makes a Successful Small Farm?

Farmers may measure success of their farming operations in different ways—e.g., providing adequate household income; providing a rural lifestyle; or increasing gross sales, acreage, or assets. In analyzing farming practices that support successful small farms, USDA's Economic Research Service focused on small-scale farms (sales under $250,000) where farming is the operator's primary occupation, ranking them by returns to assets and by operating expense ratios. The analysis found that top-performing farms are more likely than the lowest-performing farms to apply three critical management practices: using production strategies that control costs, actively marketing their products, and adopting effective financial strategies such as maintaining cash and credit reserves.

Traditional Ag Markets & the Dry Edible Bean Industry

Evidence from the dry bean industry suggests that some observers may underestimate the ability of traditional "spot" markets to handle a growing array of agricultural products. Conventional wisdom holds that as demand for nonstandard products proliferates, production contracts will increasingly come into use. In contrast to spot market sales—where buyer and seller do not interact prior to transactions—production contracts usually specify how the crop is to be produced and compensation to the grower. But even as commodity specifications become increasingly complex, use of spot markets continues to effectively coordinate buying and selling of nonstandard dry beans. Because it is relatively easy to verify typical product quality characteristics, dry bean buyers can purchase from suppliers who provide desired quality without using contracts.

Briefs

Livestock, Dairy, & Poultry

Favorable Market for Poultry to Encourage Year 2000 Expansions

Poultry producers are having a relatively good year in 1999. Turkey producers are enjoying the most profitable year since 1986. Combined with feed costs nearly 20 percent below a year ago, higher prices in 1999 have resulted in attractive profits and encouraged turkey producers to expand production in second-half 1999 and in 2000. Retail turkey prices are just slightly higher than last year. While broiler and egg production will not be quite as profitable as in 1998, producers are still in a favorable position to continue expansion in 2000. Broiler and egg production is expected to increase more slowly in 2000 than in 1999.

The attractive profits enjoyed by the ***turkey*** industry are the result of feed costs nearly 20 percent below a year ago and higher 1999 turkey prices. Production declines in 1998 following losses the previous 2 years prompted drawdowns of turkey meat stocks, leading to higher prices in 1999. Production in 1999 is expected to be about unchanged from a year ago as increased production in the second half of the year offsets lower production in the first half. The increased profits of 1999 are expected to encourage turkey producers to expand meat production in 2000 by about 2 percent. The number of birds raised should be about the same as in 1999, with heavier weights accounting for the increase.

Turkey supplies for the fall holidays should be about the same as last year, with about 6 pounds per capita expected to be consumed in the fourth quarter. In 1999, production is forecast to be the same as last year. Consumption increasing with population will more than offset a decline in exports, leaving ending stocks lower. Prices for turkeys at retail are expected to be about 2 cents per pound higher than a year ago. Retailers will absorb much of the increase in wholesale prices for turkeys, which are about 7 cents per pound above a year ago for Eastern Region Hens.

Broiler domestic disappearance this year is expected up about 5 pounds per person from 1998 (retail-weight basis). This would be the largest annual increase since consumption increased by more than 5 pounds between 1943 and 1944, when most other meats were being rationed and diverted for military use. Since 1993, much of the broiler production increase had been absorbed by the export market, but in 1999 and 2000 the domestic broiler market will likely compensate for limited export expectations brought about by economic weakness in Russia and many parts of Asia.

Record profitability in the broiler industry during 1998 encouraged stronger-than-usual production increases in 1999. Both broiler and egg production are expected to increase more slowly in 2000 due to weaker broiler and egg prices in second-half 1999 and slightly higher feed costs compared with year-earlier periods.

Whole-bird prices are expected to average about 58 cents per pound in 1999, about 5 cents below a year ago. Whole-bird prices for 2000 are expected to decrease an additional 2 cents to 56 cents per pound. Whole broiler prices have shown less weakness than parts prices this year as larger supplies of both whole chicken and parts are being sold on the domestic market. Parts prices have declined by about 10 percentage points more than whole-bird-prices, from a year ago, due to increasing segmentation of the chicken market.

Since 1993, market segmentation has been important for chicken parts markets as much of the dark meat has been exported, while nearly all of the white meat has been marketed domestically. The increasing popularity of deboned breast meat in the domestic market led companies to further segment the market through bird weights to limit labor costs per pound of product on their processing lines. Companies started growing heavier birds for deboning, since the amount of labor to process a small breast is nearly the same as for a large breast. Lighter weight birds make up the whole-bird quote, while primarily heavier weight birds are cut up for the wholesale parts market. Changing supplies of these classes of birds have affected the price movements.

USDA's Agricultural Marketing Service began publishing shares of broiler slaughter by three weight categories in 1997. The lightest weight category is targeted to be cut up and used in fast-food restaurants as bone-in parts or to be sold whole for rotisserie preparation. The middle category refers to birds targeted for the retail market, and the heaviest birds are used for deboning. During 1999, the share of birds in the heaviest weight category has been about 5 percentage points larger than in 1998. With the share of birds for the two lighter categories about 5 percentage points less than last year, the relatively tighter market for light birds and the relatively larger supply of heavy birds have accounted for the smaller price declines for whole birds versus parts on the wholesale market.

Total ***egg*** consumption per person reached 254 eggs in 1999, continuing the increase from about 236 in 1995. While consumption of eggs in processed form has been increasing since 1981, shell-egg consumption decreased from 1979 to 1995. From 1995 to 1997, declines in shell-egg consumption were small enough that increases in processed egg consumption brought an increase in total egg consumption. In 1998, there was an actual increase in shell-egg consumption, and another increase is expected for 1999. Lower egg prices are probably a major factor in increased usage. Changes in consumer attitudes toward the effects of cholesterol in eggs and increased promotional activities are also being credited with turning around the consumption decline. AO

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Commodity Spotlight

Weak Demand Dampens Outlook for U.S. Cotton

The 1999 outlook for U.S. cotton producers is somewhat mixed. This season's U.S. cotton crop is projected to rebound from 1998's decade-low output, with cotton area the largest in 3 years. But prospects of potential earnings from the larger output in 1999 are dampened by weak demand and rising stocks. The result is a less-than-robust outlook for the 1999/2000 (August-July) marketing year.

For 1999 spring planting, producers—released by the current farm legislation from acreage restrictions—were free to decide which crops to plant and how many acres of each. With prices for major row crops at recent lows, many cotton producers who had the option to plant other crops decided that net returns for cotton were the most promising this year. As a result, U.S. producers increased cotton plantings in 1999, despite the subpar crop of 1998 still fresh in their memory.

The latest acreage estimate from USDA's National Agricultural Statistics Service (NASS) indicates a 9-percent expansion in planted area and a return to a lower, more "normal" average abandonment in 1999/2000. Harvested area is projected to rise 25 percent from last season. While expected national yield is below a year ago, cotton production is projected to rise 18 percent this season and inflate supplies.

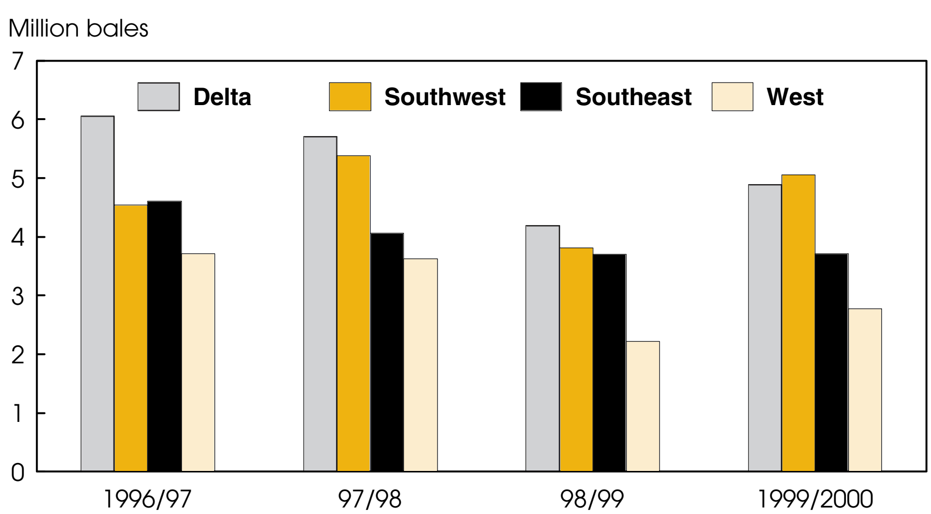
Despite some weather-related setbacks again this year, production is expected to rise in three of the four regions of the Cotton Belt. For 1999, the Southwest region is projected to capture top-producer status, a distinction recently held by the Delta, this year's second-largest production area. Each of these regions is expected to contribute approximately 30 percent of U.S. cotton production in 1999, with the Southeast and West contributing the remainder.

Although declining crop conditions have placed the latest NASS production forecast well below the August projection, U.S. cotton production this season is expected to push supplies above the 1998 season, even without the substantial quantity of raw cotton imported last year. Beginning stocks are equal to those of a year ago and imports are projected at a minimum this season. U.S. cotton supplies are estimated to rise 12 percent, perhaps too large an increase in an environment of sluggish demand with the financial crises in Asia still reverberating.

World Demand Is Key To Cotton-Sector Turnaround

Given last season's worldwide decline in cotton demand in the wake of the Asian financial crises, the extent of any demand rebound will play a key role in the 1999/2000 outlook for the global cotton market. Early indications are for world cotton demand to rise more than 2.5 percent this season, above the average long-term growth rate of nearly 2 percent. However, global cotton use is not yet

Southwest to Lead in U.S. Cotton Production



August-July crop year. Bale = 480 lbs. 1999/2000 projected.
Economic Research Service, USDA

Commodity Spotlight

expected to return to the pre-crisis level of 2 years ago, and mill demand is projected to grow for foreign countries in aggregate but not in the U.S.

Sluggish U.S. cotton mill demand expected this season is the result of persistent competition from manmade fibers and double-digit growth in imports of textile and apparel products. As competition from imports continues to force U.S. industry participants to merge, close, or move mill operations abroad, domestic cotton mill use is projected to fall slightly from last season's level and future expansion is questionable.

U.S. cotton exports, on the other hand, are expected to recover in 1999 from the dismal level of last season. Improvement in foreign import demand and consumption are likely to support U.S. shipments in 1999, and exports are projected to rise more than 25 percent. However, formidable foreign competition in the global export market is expected to keep U.S. cotton exports well below the average of the robust 1994-97 seasons. U.S. cotton exports are forecast more than 2 million bales below recent levels and more than 1 million bales below annual average exports in 1986-98, the period since farm legislation introduced cotton marketing loans and ended the loan rate's role as a price floor and a barrier to exports for cotton.

An assumption underlying USDA's October forecasts for both export and domestic consumption is the continuing inactivity of Step 2 of the Cotton Marketing Loan Program (*AO* September 1998). Funding for Step 2 through fiscal year 2002, aimed at keeping U.S. cotton competitive on the domestic and global market, was exhausted in December 1998; Congress recently passed legislation to provide additional funding for reactivating Step 2. It is generally accepted that some expansion in exports and domestic use is likely to result from a reactivated Step 2, but the extent depends on the circumstances under which the program operates, and estimates vary widely.

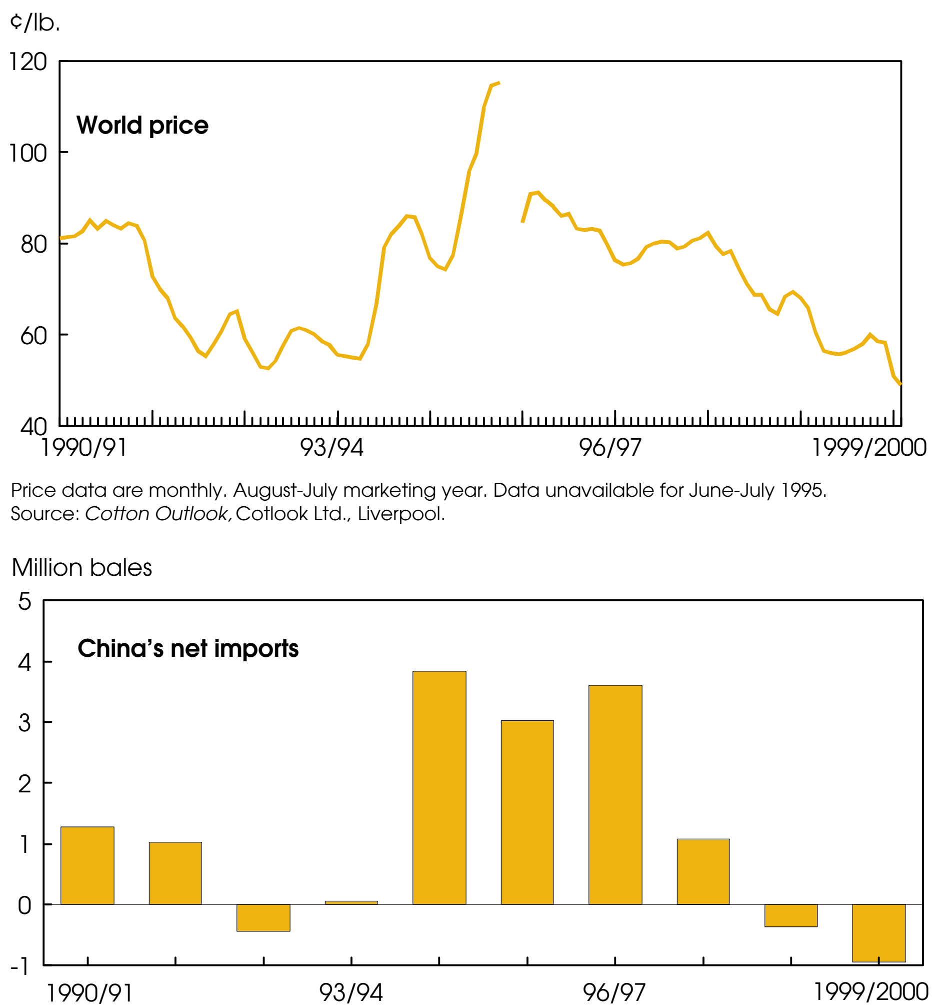
China—a Strong Influence On World Cotton Prices

Among the major changes the world has seen in the last 40 years has been the growing integration of China into the world community, and increased openness of information about events in China. However, there is ample room for further progress in the world's understanding of China's cotton sector, and lack of understanding may translate into greater world price instability. A number of uncertainties about China's behavior have been holding down world prices during the first months of 1999/2000.

World cotton prices early in marketing-year 1999/2000 were the lowest since the beginning of 1986/87. At that time, U.S. policy changed course, ending government's acquisition of stocks to support market prices and ending the withholding of government-purchased stocks from domestic and world markets. These changes were made in a way to ensure that despite short-term price declines as a result of this policy change, U.S. farmers would maintain sufficient resources in agriculture to meet longrun demand. China exported large amounts of cotton that season, further pressuring prices.

China again figures strongly in the causes underlying this season's relatively weak

World Cotton Price Reflects China's Imports



Price data are monthly. August-July marketing year. Data unavailable for June-July 1995.
Source: *Cotton Outlook,* Cotlook Ltd., Liverpool.

August-July marketing year. 1999/2000 projected.
Economic Research Service, USDA

prices to date and the expectation of relatively weak U.S. exports. China's current policy—like that of the U.S. in 1986/87—is aimed at lowering government-held stocks, making policy adjustments to free up some old stocks, and putting into place measures to prevent 1999/2000 and future crops from becoming government-owned.

The centerpiece of China's new policy is termination of government's role as sole legal purchaser of cotton and government's guaranteed purchase of all available cotton at a price well above world levels. Although withdrawal of this price floor has been widely anticipated in China, production in 1999/2000 is nevertheless expected to be only slightly lower than the year before. However, many forecasters expect a stronger downward production trend in subsequent years. Given China's need to maintain employment in a slowing economy, and a long tradition of high agricultural self-sufficiency, it is unclear whether the government's willingness to accept the social consequences of falling producer incomes will persist in the face of potentially large declines in cotton production.

Another source of uncertainty relates to China's stock holdings. Until recently, stock levels in China were regarded as a state secret, and while stock levels have been publicly discussed lately by government sources in China, none of the various published numbers can be verified. There is even some question about whether or not all the reported stocks really exist. If they do exist, the quality and condition of these stocks is highly uncertain; they may even be unusable.

Disposition of stocks from earlier years may depend partly on some adjustment in current government policy. The Cotton and Jute Companies that procured stocks for the government at guaranteed support levels above market prices cannot release this older cotton at current prices without recording monetary losses, which policy forbids. Conceivably this policy constraint could change.

China still publishes no complete estimate of domestic cotton use. In addition, its production data have long been questioned by a wide range of observers, and even trade data are somewhat suspect due to the acknowledged widespread smuggling of a variety of commodities. In these circumstances, it is difficult for the rest of the world to react to anything but China's recent actual transactions with the rest of the world—i.e., reported exports and imports.

Current information indicates that China's net exports are trending upwards. With little available information, the rest of the world generally expects the level of cotton exports from China to continue rising. As a result, world prices have been dipping lower.

Cotton Consumption Reflects Economic Health

In the 1990's, stagnation in global cotton consumption has been the order of the day, in contrast to the 1980's, when cotton consumption underwent one of its greatest sustained surges of the century. The current decade has seen the collapse of cotton consumption in countries of the former Soviet Union, growth in production of polyester—a competing fiber—rebounding to nearly record levels, and finally, financial crises in Asia that drove cotton into the deepest consumption slump seen in decades, contributing to depressed global exports and prices.

Rebounding consumption in 1999/2000 is not expected to fully make up for the 4.1- percent decline in consumption in 1998/99. Although world economic growth slowed only modestly in calendar 1999, a number of once rapidly growing developing countries suffered severe setbacks, and longrun consumption prospects there have weakened as a result.

The 1998/99 consumption decline probably reflects reduced consumption expectations of cotton consumers (purchasers at the retail level) for a number of years into the future. Cotton consumers in Southeast Asia undoubtedly have adjusted their longrun domestic consumption expectations downward because of the economic crisis in Asia that began in 1997, and therefore the export share of the region's mill use (textile production) is higher, pressuring mills elsewhere in the world. Cotton consumers in China are probably less certain about their longrun cotton consumption prospects, especially since China's textile exports have not been robust lately. Devaluations and increased uncertainty have affected the outlook for Brazilian and Russian cotton consumers.

There are no obvious market candidates displaying positive longrun economic adjustments that will lead to significant expansion of cotton consumption. U.S. short-term general economic performance, however, continues to surpass expectation, and generally positive news has been coming recently from Europe and Japan.

Refueling Step 2 to Bolster U.S. Cotton Competitiveness

The 1990 farm legislation provided a mechanism—Upland Cotton User Marketing Certificates or "Step 2" of the Cotton Marketing Loan Program—for keeping U.S. cotton competitive on the world export market as well as for encouraging domestic mills to use U.S. cotton instead of importing cheaper foreign cotton. Step 2 provides payment to exporters and domestic mill users of U.S. upland cotton when:

- after 4 consecutive weeks, the U.S. price on the world market remains more than 3 cents per pound above the weekly average of the five lowest cotton price quotations from a variety of countries, and
- the adjusted world price is no more than 34 percent above the per-unit government loan rate available to cotton farmers.

Farm legislation passed in 1996 limited Step 2 expenditures to $701 million during the period FY 1996 through 2002, but the program funds were exhausted by December 15, 1998. The program has been inactive since then, but Congress recently passed legislation to provide additional funding.

See AO September 1998 and July 1997 for details on Step 2.

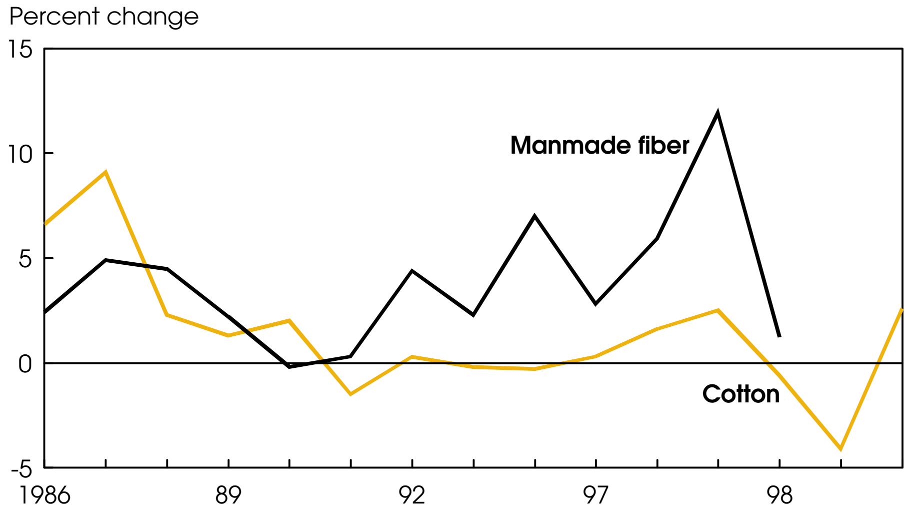
Commodity Spotlight

World cotton consumption is expected to rise 2.6 percent in 1999/2000, well below the rate in some years when consumption rebounded from earlier declines, but still above the likely long-term growth potential. With world economic growth expected to continue improving in calendar 2000, the lagged effect of recent lower cotton prices should support an above-average outlook for cotton consumption. If stable economic growth is maintained, cotton consumers' longrun outlook should eventually improve as well.

Improving economic performance expected in the coming 12 months suggests clothing demand could be rising in many developed as well as developing countries. China's increased export rebates, floating procurement prices, and recovering profitability in the textile sector indicate that cotton consumption in China could increase in 1999/2000. Favorable exchange rates for the Russian ruble and Brazilian real also suggest that cotton consumption should improve in those countries. Because increased consumer demand for cotton textiles in one country can translate to increased mill use of cotton in a number of other countries, it is unclear where cotton mill use will grow in 1999/2000. However, additional use in textile exporters like India, Mexico, and Southeast Asia seems reasonable.

Another—although perhaps less certain—factor in favor of growing cotton consumption in 1999/2000 is reduced investment in manmade (chemical) fiber production, particularly in Asia. Worldwide, the profitability of chemical fiber production suffered from the recent economic slowdown, and in Asia the cost of capital

Global Cotton Use to Rebound in 1999/2000



August-July marketing years for cotton (e.g., 1998=1997/98 marketing year). 1999/2000 forecast.
Calendar years for manmade fiber.
Source: International Cotton Advisory Committee and Fiber Economics Bureau for manmade (chemical) fiber data.
Economic Research Service, USDA

has risen with the introduction of floating exchange rates and the higher degree of economic uncertainty in the region. Some industry sources indicate that while manmade fiber production rose 6 percent in 1996 and 12 percent in 1997, growth slipped below 2 percent in 1998. Capacity growth has reportedly slowed dramatically, suggesting an even smaller gain in global manmade fiber production in 1999.

With abundant cotton supplies projected again in many countries around the globe, even the relatively robust consumption forecast for 1999/2000 is expected to reduce world ending stocks only slightly. In the U.S., ending stocks are projected to rise to 30 percent of use, equaling the highest level in this decade. China's stocks are expected to fall, but virtually no change is expected in the total for the rest of the world. In hindsight, the 1986/87 shift in world prices—ushered in by the 1986 U.S. policy change to draw down government stocks—helped sustain booming cotton consumption through the end of the 1980's. Only time will tell if a similar outcome will follow China's policy revisions and the pause in manmade fiber capacity gains. AO

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Farm & Rural Communities

What Makes a Small Farm Successful?

Farms and farm families remain powerful symbols in American culture. While the economies of most places in the U.S. are not dependent on farming, the issue of survival of family farms continues to evoke strong response from the public, particularly during periods when the farm sector is in distress. For much of the public, the term family farm is synonymous with small farm.

Analysis by USDA's Economic Research Service (ERS) indicates that despite recent public attention to difficulties faced by small-scale family farmers, some operations are successfully negotiating current market conditions. Although definitions of success may vary, these farmers have developed or adopted practices that keep their small farms economically viable. Their experiences may suggest strategies for success in small-scale farming that are transferable to other operations.

The U.S. farm sector consists of a highly diverse set of businesses and farm households, and "small" means different things to different people. A variety of small-farm definitions has been used by USDA over the years, including those based on small acreage, low sales volume, and the ability of a farm to support a single family. However, the extent of acreage does not necessarily correlate with sales volume. A berry farm of only a few acres, for example, can generate a very large volume of sales; conversely, cattle operations may have a low volume of sales but encompass many acres of pasture.

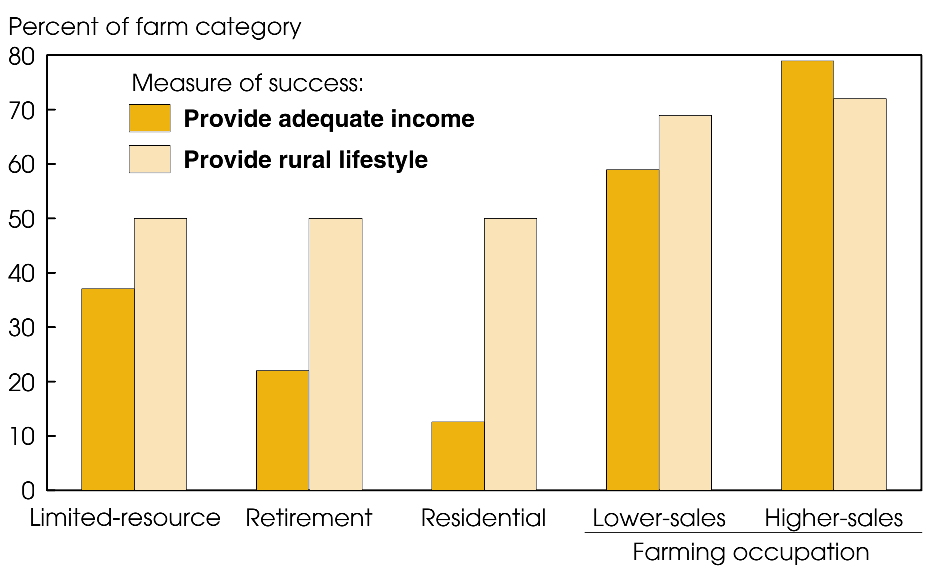
Small farms are currently defined, based on an ERS-developed typology (see article, page 11), as operations with sales less than $250,000. While this considerably expands the traditional sales-class definition of small farms, operations with sales under $250,000 are small compared with other businesses in the general economy.

Despite frequently documented constraints facing farmers with operations of this size, small farms continue to be an important component in the U.S. agricultural sector. Distributed across all regions of the country, small farms make up 94 percent of all U.S. farms and constitute one of the biggest single groups of U.S. business owners. Although large farms produce large volumes of agricultural products, small farms still contribute a substantial portion (38 percent) of the value of U.S. farm production and control the majority (73 percent) of farm assets.

ERS typology—small family farms

Limited-resource
Retirement
Residential/lifestyle
Farm operator occupation
  Lower-sales
  Higher-sales

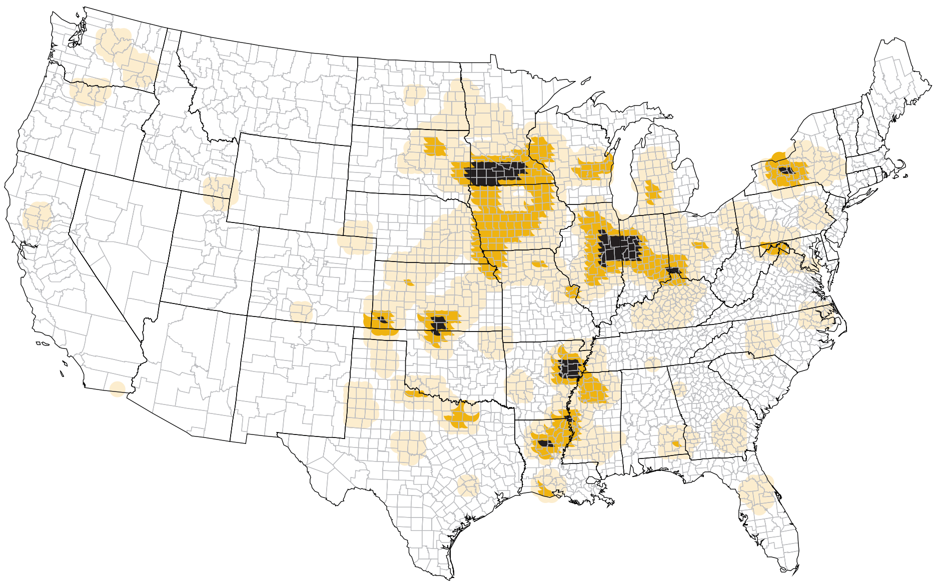
Farmers Attach Different Levels of Importance to Measures of Success



Source: Agricultural Resource Management Study.
Economic Research Service, USDA

Farm & Rural Communities

Successful Small Farms Are Located Throughout the U.S.



Probability of finding successful farms

Highest

Medium

Lowest

Includes only small farms where operator's primary occupation is farming, and areas with adequate sample size. Probability based on estimates from the ERS model of successful small farms using data from the Agricultural Resource Management Study.

Economic Research Service, USDA

Many small-scale farm operations raise cattle, but a sub-group of small farms, particularly higher-sales small farms, are more likely to produce cash grains. The majority of wheat, corn, rice, and other feed grains produced in the U.S. comes from these operations. Small-scale farm operators also hold much of the farmland of the U.S. and are key participants in certain environmentally based government programs, such as the Conservation Reserve Program (CRP) and the Wetlands Reserve Program (WRP).

Farms may meet the ERS small-farm definition (sales under $250,000) for a variety of reasons. For some, the farm may serve primarily as a residence, rather than as a source of income. Some operators may be deliberately scaling down their farm businesses as they retire. For others, the farm may provide a significant portion of household income and/or a significant source of employment. Some remain small because they have limited resources.

Defining Successful Farms

In defining success, ERS analysts recognized that not all farmers have the same goals—for their farm businesses, themselves, or their households. One family may concentrate on expanding its farm operation by leveraging the business, while another may consider the farm lifestyle as adequate compensation for low farm income. Among small-scale farm operators and their households, each typology group has stories of farm families operating successful farm businesses based on their own definitions of success.

In USDA's Agricultural Resource Management Study (ARMS), farmers were asked to weigh the importance of selected measures of "success." These include:

- operation provides adequate income without having to work off farm,
- operation provides a rural lifestyle,
- operation would be able to survive adverse market or weather conditions,
- gross sales are increasing,
- equity or assets are increasing,
- acres operated is increasing,
- operation can be passed on to the next generation.

For those operating limited resource, retirement, and residential/lifestyle farms, it was more important that the farm provide a rural lifestyle than an adequate income. On farms that are larger and where farming is a primary occupation, importance shifts to the farms' ability to provide adequate income for the family.

Given these various measures and definitions of success, however, most economists would say that successful operations are those that are performing well based on production, managerial, and financial measures. Good performance in this context means that the business has low costs of production and earns an attractive family income. By focusing on an "attractive family income," the concept of good performance can go beyond simply adequate returns to the farm as a business to include the relationship between the farm's success as a business and the well-being of the operator's household.

Even at sales of $250,000 or more, a farm would have to be highly efficient for the business alone to provide adequate income for a family. In 1997, average farm household income stood at $52,347, just above the $49,692 average for all U.S. households. In fact, average farm household income has been on a par with the average U.S. household for many years, but not without off-farm income. Like most U.S. households, farm households have multiple income sources, and even households of larger farms have substantial off-farm income on average. Most small farms have sales much lower than $250,000, so not surprisingly, a larger share of average household income on small farms comes from off-farm sources than is the case for larger farms.

In analyzing farming practices that support successful small farms, ERS focused on the two groups of small-scale farms for which farming is the operator's primary occupation ("higher-sales" and "lower-sales" farms). Since farm earnings make up a larger proportion of total household income for primary-occupation farms than for other small-scale farm types, economic measures of success were particularly applicable to them.

Farm-level data collected by USDA through the ARMS allowed identification of top-performing farm businesses in the selected categories using standard measures of income—or profitability—and cost structure. A ranking or distribution from high to low returns or from low to high costs provided the basis for designating high-performing farms.

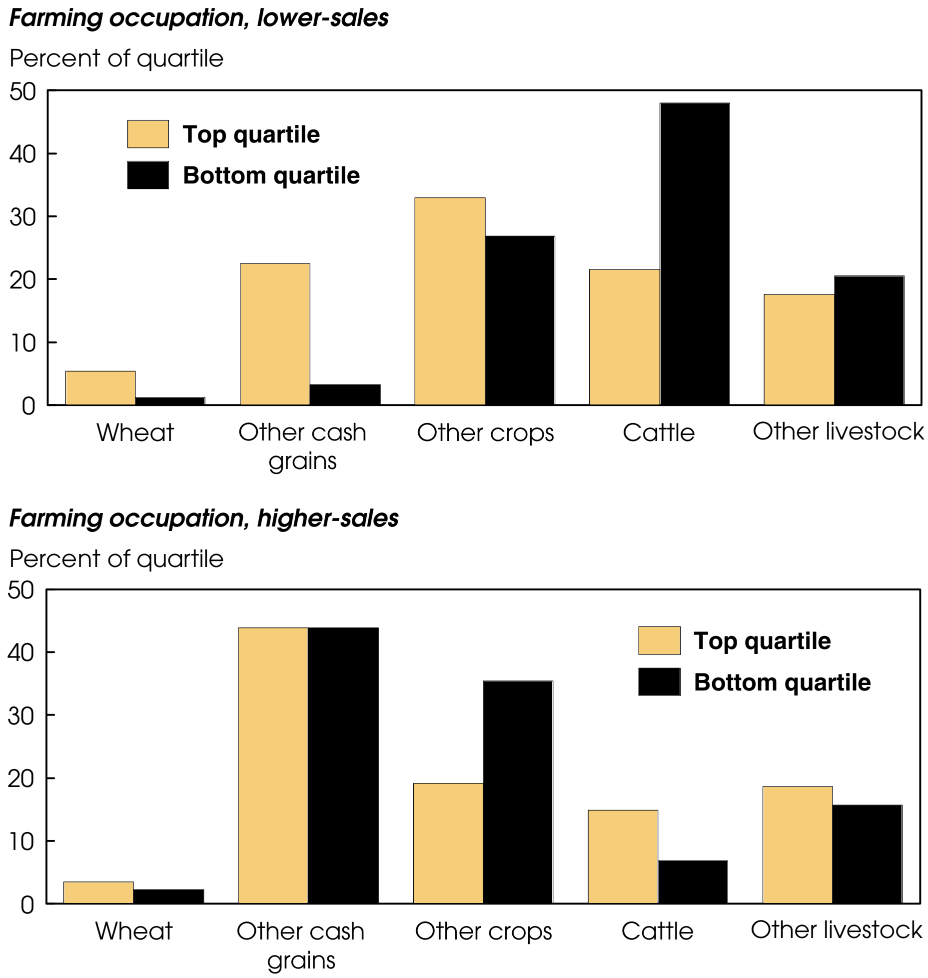
The analysis is national in scope, but based on data for only a single year—1996—which might affect characterizations and comparisons of specific areas and/or farm production types for which 1996 was not a representative year.

Characteristics of Successful Farms

Top performers (successful farms) were defined as farms in the top 25 percent of each selected category of small farms, based on either returns to assets or operating expense ratios. Using either standard, top performers in each small-farm category were found in all major commodity groups and in all regions, although top performers from different farm categories tended to be concentrated in production of particular commodities.

While many small farmers tend to emphasize cattle as their principal commodity, farmers in the top 25 percent of the distribution by returns to assets were clustered in the production of "other cash grains"—corn, soybeans, and grains other than wheat—and "other crops"—vegetables, fruit, other field crops (those not classified separately), and nursery or greenhouse specialties. In the higher-sales group, farmers most commonly specialized in "other cash grains," not cattle. Top-performing higher-sales farms were found in greater proportion in this specialty than in other specialties, including other crops, cattle, other livestock, and wheat. Because this analysis is for one year, recent financial circumstances of farms in the Plains, especially the Northern Plains, may influence whether grain farms continue to dominate "successful" farm categories.

Crops Are Leading Enterprises for Top-Performing Small Farms



Lower-sales = Farms with operator whose primary occupation is farming and with sales under $100,000. Higher-sales = Farms with operator whose primary occupation is farming and with sales of $100,000-$250,000. Quartiles of farms ranked by returns to assets and operating expense ratios. "Other cash grains" include commodities such as corn, oats, and barley.
Source: Agricultural Resource Management Study.

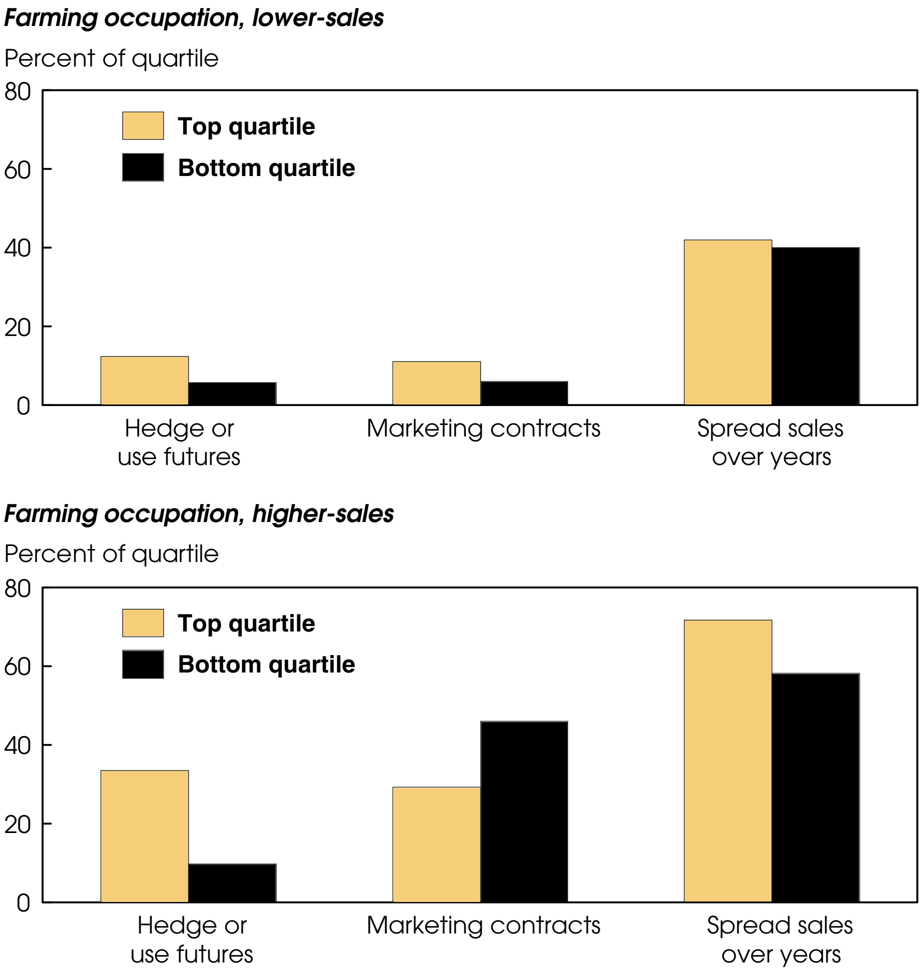
Economic Research Service, USDA

Top-performing small farms are characterized by successful application of three critical management strategies: using production strategies that control costs, actively marketing products, and adopting effective financial strategies. Controlling costs—variable, fixed, or economic costs (which provide a return to the unpaid labor, machinery, equipment and other assets used in production)—is a main feature of top-performing farms. Controlling inputs leads to lower costs per unit of output and thus to higher profits per unit of output. Keeping fixed costs (such as mortgage payments or equipment costs) low by renting land or machinery permits flexibility when market conditions vary.

Production strategies differ between operators of top-performing small farms and operators of other small farms in the study groups. Besides controlling traditional production costs, producers in the top 25 percent of the lower-sales group reported greater use of forward pricing of inputs, diversification into additional crop or livestock enterprises, and renting land—particularly share renting—than did other farmers in that group. Higher-sales farmers had similar characteristics. All these strategies help farmers manage production risk. In both the higher-sales and lower-sales groups, farmers in the top 25 percent are also more likely to allocate some of their labor to off-farm work.

Farm & Rural Communities

Top-Performing Small Farms Rely More on Marketing Practices



Farmers may use more than one strategy.
Lower-sales = Farms with operator whose primary occupation is farming and with sales under $100,000. Higher-sales = Farms with operator whose primary occupation is farming and with sales of $100,000-$250,000. Quartiles of farms ranked by returns to assets and operating expense ratios.
Source: Agricultural Resource Management Study.

Economic Research Service, USDA

Top performers also *actively engage in marketing their products*. Active marketing of crop and livestock commmodities/ products generally gathers additional margins—which increases profits—through better timing of sales to receive higher prices. Top-performing farms in both study groups were more likely than other farms in those categories to use marketing strategies like hedging or futures/options contracts, forward contracting of sales through use of marketing contracts, and spreading sales over the year. Forward contracting of sales through marketing contracts was not as useful for successful higher-sales farms, probably because they concentrated in corn, soybeans, and grains—crops not typically grown under contract.

Financial strategies enable top performers to respond to changes in the market. Data for the ERS study reflect relatively low-intensity financial practices such as maintaining cash and credit reserves that help operators meet unexpected cash flow difficulties and take advantage of unexpected business opportunities. Crop insurance was included as a financial strategy in the study because its purpose is income maintenance and assuring the farm's ability to meet cash flow obligations. Successful higher-sales farms were more likely than other higher-sales farms to maintain cash or credit reserves and to have purchased additional buy-up insurance that supplements basic catastrophic policies. In the lower-sales group, top-performing farms showed little difference in financial strategies from other farms in that group, except that they were slightly more likely to use crop insurance—both catastrophic and additional buy-up insurance.

Learning from Successful Farms

The diversity of the small-scale farm sector and the complexity of business, household, and market connections for small-scale farms make it imperative to understand which management practices are behind successful small farms. Tried-and-true strategies such as controlling costs and increasing efficiency and productivity are still important. But the current economic environment demands more.

Successful farming requires management strategies that reach beyond production to planning and control of the marketing and financial aspects of the business. Organization and planning along these lines may require new skills, but they will also provide greater opportunities for farmers. Analysis from this study indicates the value of an increased emphasis on returns to management, rather than to capital, for success under current business conditions.

Diversity of farm operations increases as new environmental regulations, energy policies, and technologies lead to changes in the ways farmers produce. Alliances, joint ventures, contracting, and other production arrangements change the way farmers can organize resources and the returns they can expect. Farmers also respond to price signals by diversifying product mix to include not only food and fiber but also agricultural products for fuels, medicines, and industrial uses.

Identifying practices that have helped farms of widely varied structures and product mixes to succeed can be helpful as policymakers, educators, farmers, and others face decisions about strategies and policies to lower costs and conserve production and financial resources for the full range of small-scale farm types. AO

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Farm & Rural Communities

ERS Farm Typology: Classifying a Diverse Ag Sector

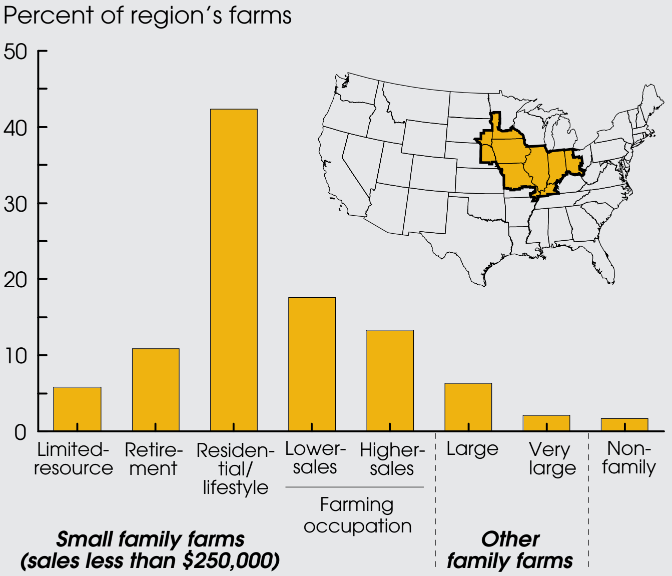
Farms vary widely in size and other characteristics, ranging from very small retirement and residential farms to establishments with sales in the millions. A farm typology developed by the Economic Research Service (ERS) categorizes farms into more homogeneous groups than classifications based on sales volume alone, producing a more effective policy development tool.

The typology is based on the occupation of operators and the sales class of farms. In the case of "limited-resource" farmers, the asset base and total household income—as well as sales—are low. Compared with classification by sales alone, the ERS typology is much more reflective of operators' expectations from farming, stage in the life cycle, and dependence on agriculture.

The typology identifies five groups of small family farms (sales less than $250,000): limited-resource, retirement, residential/lifestyle, farming occupation/lower-sales, and farming occupation/higher-sales. To cover the remaining farms, the typology identifies large family farms, very large family farms, and nonfamily farms.

The groups differ in their contribution to agricultural production, their product specialization, program participation, and dependence on farm income.

The Heartland Illustrates Farm Diversity



Defining the Farm Typology Groups

Small family farms (sales less than $250,000)*

Limited-resource. Any small farm with gross sales less than $100,000, total farm assets less than $150,000, and total operator household income less than $20,000. Limited-resource farmers may report farming, a nonfarm occupation, or retirement as their major occupation.

Retirement. Small farms whose operators report they are retired (excludes limited-resource farms operated by retired farmers).

Residential/lifestyle. Small farms whose operators report a major occupation other than farming (excludes limited-resource farms with operators reporting a nonfarm major occupation).

Farming occupation/lower-sales. Small farms with sales less than $100,000 whose operators report farming as their major occupation (excludes limited-resource farms whose operators report farming as their major occupation).

Farming occupation/higher-sales. Small farms with sales between $100,000 and $249,999 whose operators report farming as their major occupation.

Other farms

Large family farms. Farms with sales between $250,000 and $499,999.

Very large family farms. Farms with sales of $500,000 or more.

Nonfamily farms. Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers.

* The $250,000 cutoff for small farms was suggested by the National Commission on Small Farms.

Differences among farm typology groups (e.g., product specialization, program participation) are illustrated in the following pages using 1997 data from the Agricultural Resource Management Study (ARMS). The ARMS is an annual survey conducted by ERS and by USDA's National Agricultural Statistics Service.

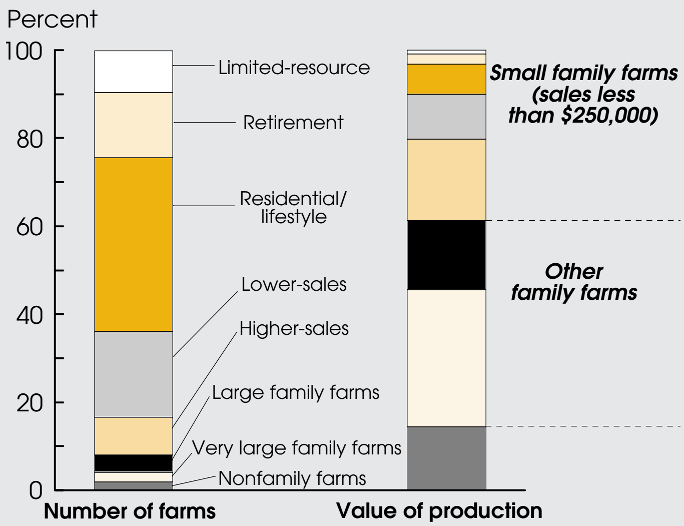
Farm & Rural Communities

Share of Farms, Assets, & Production

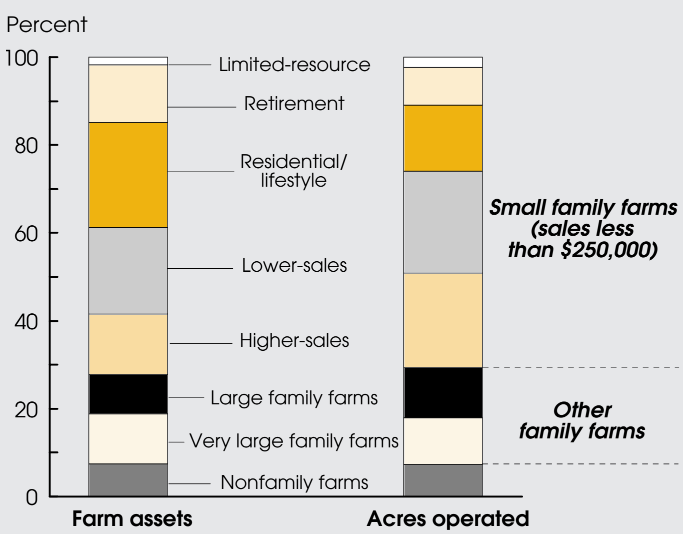
Most farms are small, but small farms account for a modest share of production.

- More than 90 percent of farms are small, and small farms account for about 70 percent of the assets and land involved in farming.
- Large family farms, very large family farms, and nonfamily farms account for 61 percent of production.

Share of Total Farms and of Production



Share of Farm Assets and Acres Operated

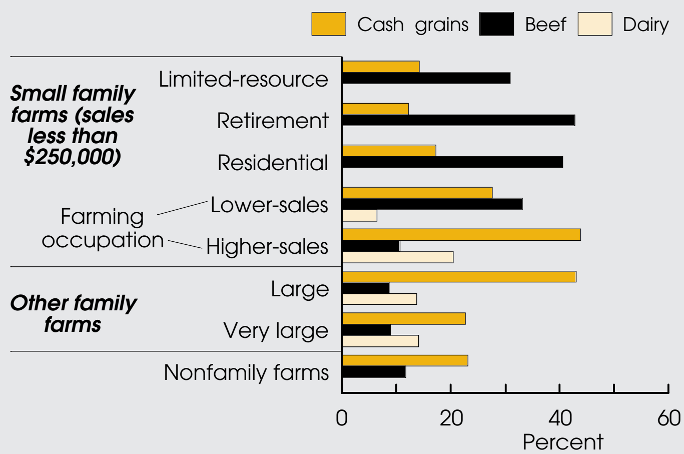


Specialization & Diversification

Specialization and diversification vary among the farm typology groups.

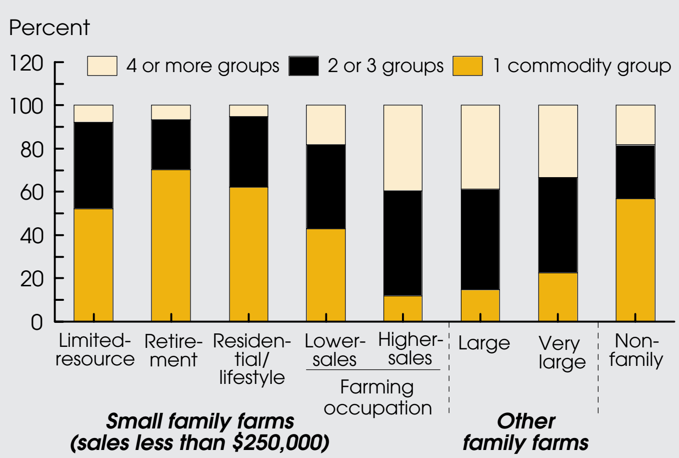
- Many small family farms specialize in beef cattle, an enterprise that often has low labor requirements compatible with off-farm work and retirement.
- In contrast, two commodity groups—cash grains and dairy—account for nearly two-thirds of all higher-sales small farms and over half of large family farms.
- Many small farms specialize in a single commodity, but higher-sales small farms, large family farms, and very large family farms tend to produce multiple commodities.

Share of Farms Specializing in Cash Grains, Beef, and Dairy



Commodity accounts for at least half of the farm's value of production. Estimates of dairy farms were suppressed for selected groups, due to insufficient number of observations.

Share of Farms, by Number of Commodities Produced



Based on 26 commodity groups.

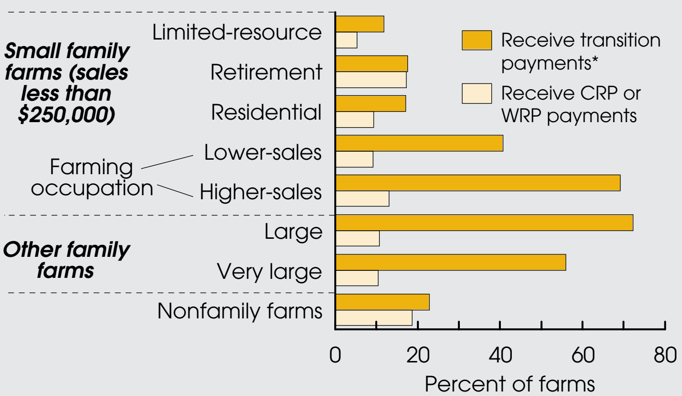
Farm & Rural Communities

Government Program Participation

All farm typology groups participate in government farm programs to some extent, but the participation rates and share of program payments vary.

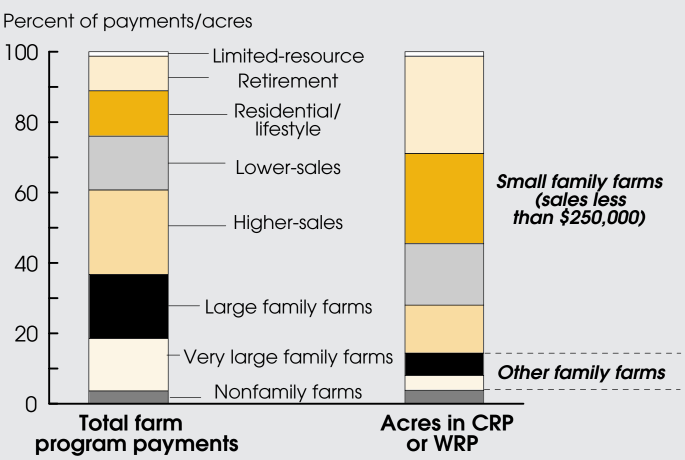
- Transition payments are most important to higher-sales small farms and large family farms.
- The largest portion of government payments goes to higher-sales small farms.
- Retirement and residential/lifestyle farms account for half of the acreage in the Conservation Reserve and Wetlands Reserve Programs (CRP and WRP).

Share of Farms Receiving Transition Payments and Payments from the CRP or WRP



* Payments to commodity-program participants under 1996 Farm Act.

Distribution of Total Farm Program Payments and of Conservation Program Acreage



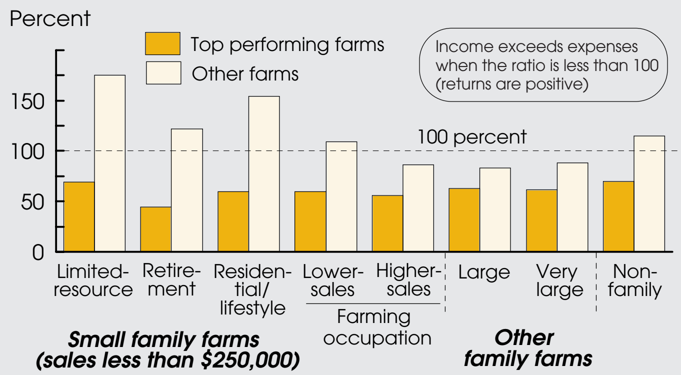
Farm program payments include payments from the Conservation Reserve and Wetlands Reserve Programs, transition payments, agricultural disaster payments, Environmental Quality Incentive Program payments, and state and local program payments.

Cost Control

"Top-performing" farms are defined as the top 25 percent of each typology group, ranked by returns to operators' labor and management.

- Top performers in each group control expenses, resulting in a 30- to 50-percent gross cash margin (the expense ratio subtracted from 100 percent).
- Each group includes farms earning positive returns.

Operating Expense Ratio for Top-Performing Farms



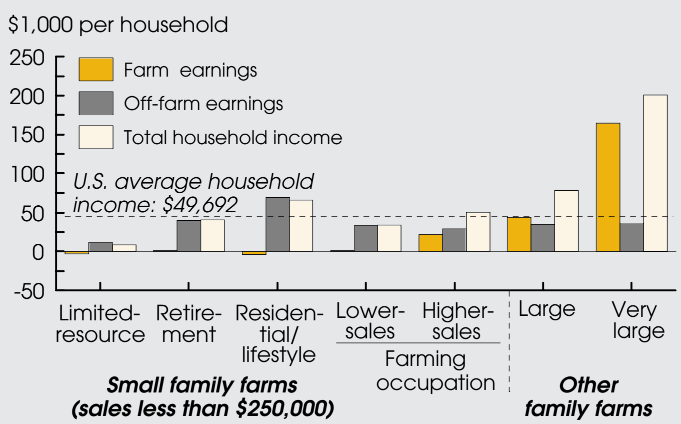
The operating expense ratio measures percentage of gross cash income absorbed by cash operating expense.

Household Income

Dependence on farm income varies by farm size.

- Households operating very large farms, large farms, and higher-sales small farms receive a substantial share of their income from farming.
- The remaining small farm households derive virtually all income from off-farm sources.

Average Operator Household Income, by Source



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FSA Credit Programs Target Minority Farmers

Racial and ethnic minorities often rely on USDA's Farm Service Agency (FSA) loan programs for their credit needs, especially in regions where minority farmers are clustered. FSA direct and guaranteed farm loan programs, which service 7 percent of all farms, are intended to provide credit to family farmers unable to get credit from conventional sources at reasonable rates and terms. Because many have limited financial resources, minority family farmers are more likely to turn to FSA than to private lenders for credit.

Minority Farmer Numbers Growing

According to the Census of Agriculture, four major groups of racial and ethnic minorities are involved in farming: Blacks, American Indians, Asians and Pacific Islanders, and those with either a Hispanic or Latino background. From 1992 to 1997, the total number of farms operated by Blacks, American Indians, and other racial minority groups rose 10 percent to 47,658. In addition, the number of farmers who claimed a Hispanic or Latino background rose 32 percent to 27,717. Growth in Hispanic or Latino farmers and Asian farmers is consistent with growth of these racial and ethnic groups in the U.S. population.

The number of Black-operated farms, unlike farms of most other racial minority groups, declined slightly from 1992 to 1997—to just 18,451 farms—and may continue to decline. Black farmers on average are older than farmers of other racial groups. Only 4 percent of Black farmers are under 35 years of age, while nearly a quarter are at least 70 years old.

Racial and ethnic minority farmers tend to be regionally clustered, often the result of historical factors. Hispanic or Latino farmers tend to be located in the Southwest, American Indians in the Plains, and Black farmers along the Southern Coastal Plain, parts of the Piedmont, and the Mississippi River Delta. Asian farmers are found primarily in California.

Racial and ethnic minority farmers tend to operate smaller operations than nonminority farmers. Only about a third of minority farms reported sales greater than $10,000 in 1997, compared with half for all farms. However, some minority-operated farms are large, bringing the average size to just under $103,000, the average for all farms. Farms operated by Blacks, however, had average sales of $26,000, while farms operated by Asian and Pacific Islanders had sales averaging $209,000. A high proportion of Asians and Pacific Islanders operate farms producing high-value fruit, vegetable, or greenhouse crops, whereas over half of Black farmers have small beef-cattle operations.

Targeting Loans to Minorities

Since the late 1980's, legislative and administrative changes have increased FSA loan services specifically targeted to farmers who may be socially disadvantaged (SDA). The Agricultural Credit Act of 1987 (P.L. 100-233) defined SDA individuals as those who may have been subject to discrimination because of their identity as members of a group, without regard to their individual qualities. In addition to racial and ethnic minorities, women are also considered an SDA group (this analysis includes women in racial and ethnic minority groups only). Initially, the targeting applied only to long-term real estate, or farm ownership, loans, but the Food, Agriculture, Conservation, and Trade Act of 1990 (P.L. 101-624) expanded targeting to include operating loans.

Targeting of loans is accomplished by setting aside a share of the annual loan funding for use by SDA applicants, based on the proportion of SDA farmers or residents in the county or state. Both direct and guaranteed loan programs have targeting requirements. Direct loans are made through FSA's county and state offices, and FSA-guaranteed loans are originated, funded, and serviced by private-sector lenders. Through both direct and guaranteed loan programs, $296 million was lent to SDA groups in

Black farmers' claims that FSA programs were failing to adequately serve their credit needs resulted in a class action lawsuit against FSA in 1997. In the lawsuit, Black farmers alleged a pattern of discrimination in farm loan programs between 1981 and 1996. In 1999, FSA agreed to settle the lawsuit by compensating eligible plaintiffs.

fiscal 1999, about 8 percent of total FSA loan obligations.

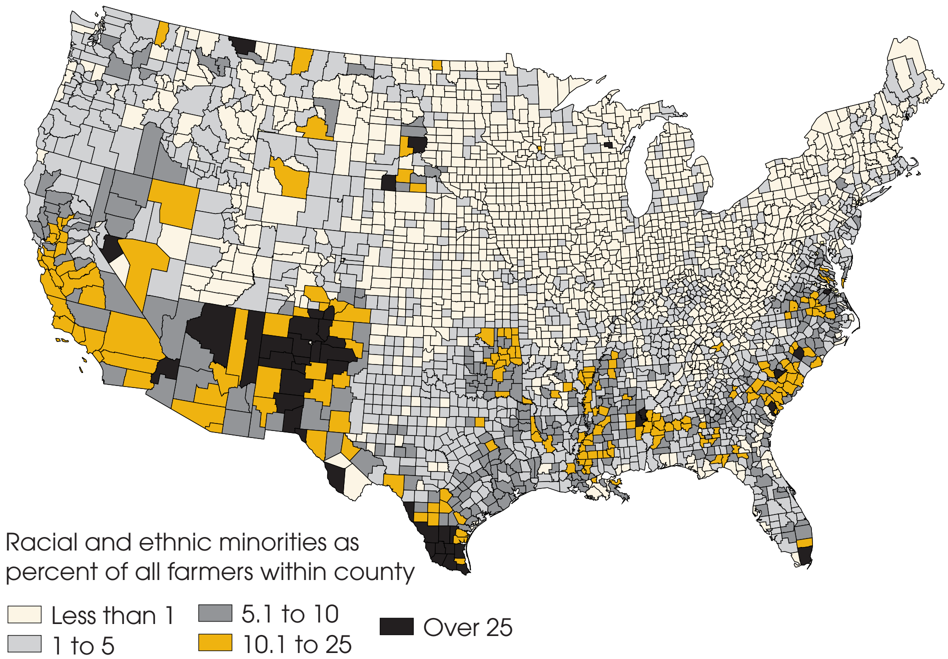
Racial and ethnic minority farmers make more use of direct loan programs than guaranteed loan programs. About 1,200 borrowers, or only 3 percent of all borrowers with FSA guaranteed loans, are racial or ethnic minorities. While minorities represented less than 4 percent of U.S. farmers in 1997, they comprised nearly 6,600, or almost 7 percent of all FSA direct borrowers in 1999 excluding lending in Puerto Rico.

In counties where racial and ethnic minorities are clustered, these groups have received a large share of all FSA direct loans since 1993. Minorities received over 25 percent of all such loans since 1993 in 370 counties (counties nationwide number 3,101). Nationally, minorities received 9 percent of all FSA direct loans since 1993.

In some regions, racial and ethnic minorities rely heavily on FSA as a source of capital. In nearly 90 counties where Black farmers are concentrated—in the Mississippi Delta, Southern Coastal Plain from Virginia to Georgia, and parts of the Piedmont—over 25 percent of all Black farmers identified by the 1997 Census of Agriculture had received FSA direct loans since 1993. For many counties on or near Indian reservations, over 25 percent of American Indian farmers were recent FSA borrowers. Likewise, for some counties in West Texas and the Southwest, over 25 percent of Hispanic farmers had obtained an FSA loan in the last 7 years.

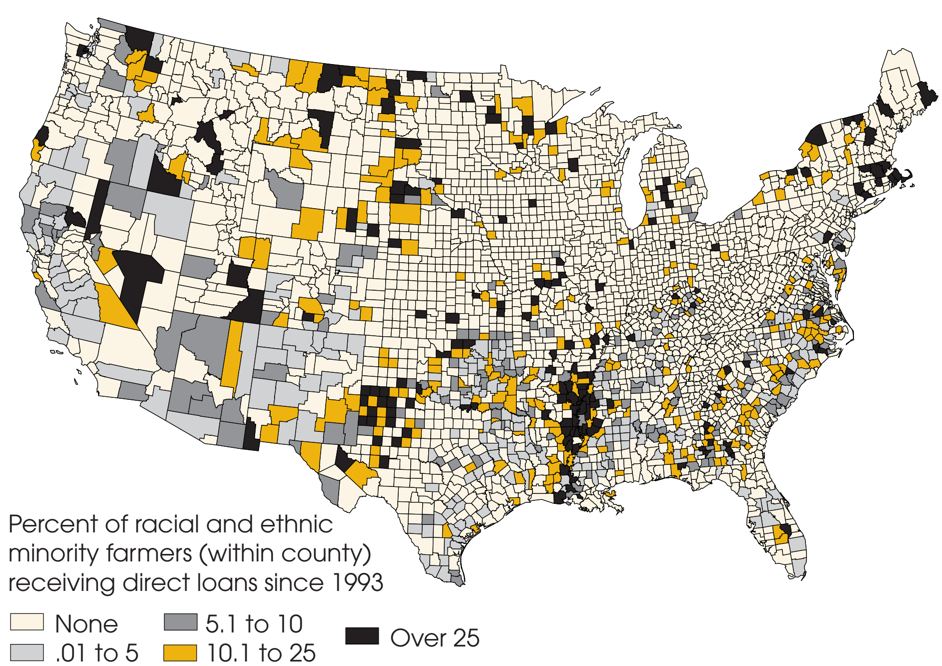
Because racial and ethnic minorities are more likely to have low average incomes and a limited asset base, they are less likely than other farmers to qualify for credit from private lenders. Discrimination by private-sector lenders represents another possible explanation for the greater use of FSA direct loans by racial and ethnic minorities. Unlike guaranteed loan programs, direct loans are administered by FSA offices and do not rely on lending preferences or practices of private-sector lenders. Minorities also tend to be located in regions where farm production is more risky. Historically, all family-sized farms in many of the same regions where minority farmers are clus-

Large Share of Farmers in the Southeast, Delta, and Southwest Are Racial or Ethnic Minorities



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

Racial and Ethnic Minority Farmers Rely Heavily on FSA Credit in the Southeast, Mississippi Delta, and Southwest



Sources: USDA Farm Service Agency and 1997 Census of Agriculture.
Economic Research Service, USDA

tered have been more reliant on FSA credit programs than on private-sector lenders.

Institutional factors may also play a role in racial and ethnic minorities' reliance on FSA direct loans. Unlike FSA, other sources of government-supported farm credit do not have specific minority lending requirements. Neither the Federal Agricultural Mortgage Corporation (Farmer Mac) nor the Farm Credit System, which are government-sponsored enterprises, is required under Federal charter to target minorities. Some larger commercial banks have an incentive to use FSA's guaranteed loan program to lend to minority farmers, to meet statutory requirements of the Community Reinvestment Act (CRA). But smaller banks that often serve rural counties are exempt from some CRA requirements.

To help ensure that the needs of minorities are adequately served, USDA has taken steps in addition to targeting of loan programs. Beginning in 1993, FSA implemented several policies to help alleviate discrimination that might still be present in delivery of its programs. These included revising EEO and Civil Rights training for state and county offices and increasing representation of minorities on FSA county committees. FSA's Small Farmer Outreach Training and Assistance Program now provides grants to entities assisting minority farmers. In response to recommendations of USDA's Civil Rights Action Team in 1997, an Outreach Office was established within USDA to increase minority participation in all USDA farm programs. Overall, lending data since 1993 indicate that the number of minorities being served by FSA credit programs is increasing.

In the short run, lower interest rates and favorable financing terms of FSA loans should increase the probability of positive net farm income for minority farmers. The ability of targeted loan programs to improve the financial condition of minority farmers over the long term is less clear. Because many minorities tend to be located in riskier farming regions, they are much more susceptible to economic downturns brought on by low commodity prices or weather-related disasters. Credit enhancement may not be sufficient to enable these farms to survive such events. AO

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November Releases—USDA's Agricultural Statistics Board

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

November

1 *Crop Progress (4 p.m.)*
3 *Broiler Hatchery*
4 *Dairy Products*
Egg Products
Poultry Slaughter
5 *Dairy Products Prices (8:30 a.m.)*
Basic Formula Milk Price (Wisconsin State Report)
8 *Crop Progress (4 p.m.)*
10 *Cotton Ginnings (8:30 a.m.)*
Crop Production (8:30 a.m.)
Broiler Hatchery
12 *Dairy Products Prices*
Turkey Hatchery
15 *Milk Production*
Crop Progress (4 p.m.)
17 *Broiler Hatchery*
19 *Dairy Products Prices (8:30 a.m.)*
Cattle on Feed
Cold Storage
Farm Labor
Livestock Slaughter
22 *Crop Progress (4 p.m.)*
23 *Chickens and Eggs*
Catfish Processing
24 *Cotton Ginnings (8:30 a.m.)*
Broiler Hatchery
Peanut Stocks and Processing
NASS Facts Newsletter (4 p.m.)
26 *Dairy Products Prices*
29 *Crop Progress (4 p.m.)*
30 *Agricultural Prices*

For recently updated forecasts of farm income
Turn to tables 29-31 on pages 53 and 54

For the analysis behind the numbers,visit the
Farm Business briefing room
on the Economic Research Service website

www.econ.ag.gov/briefing/fbe/

Food & Marketing

Gary Lucier

Role of Traditional Ag Markets: The Dry Edible Bean Industry

A major change underway in the U.S. food and agricultural sector is the rise of the production and marketing of products with specific characteristics. As more products and uses are developed, and as consumer tastes and preferences change, niche commodity markets will become increasingly important. As a result, agricultural markets are becoming more complex because they involve a wider range of differentiated commodities and uses.

Prices for standard commodities have long been the basis for signaling quality and product specification through market channels. The classic example is corn, which has traditionally been traded using broad quality standards such as U.S. #2. But broad quality grades that define basic commodities often do not adequately describe products destined for specific uses and niche markets. In the case of corn, part of the market in recent years has segmented into different value-enhanced products (e.g., high-oil, high-starch, waxy, and organic).

Conventional wisdom is that as non-standard products proliferate, they will be traded primarily with the use of production contracts, rather than through "spot markets" or marketing contracts.

Production contracts shift many of the management decisions to the buyer of the commodity. These contracts typically specify how the crop is to be produced—including the variety grown, inputs used, and timing of planting and harvest—and the compensation the grower will receive. This enables buyers to ensure that they are receiving the correct product for the niche market.

In contrast, marketing contracts usually specify only the price and quantity to be traded. With a spot market, there is no interaction between buyer and seller prior to the transaction, and the price is determined by current supply-and-demand conditions.

Although use of production contracts may expand, evidence from the U.S. dry bean industry indicates that spot-market-based transactions can be used for a far wider group of commodities than previously thought. Exploring the dry edible bean market sheds light on how changes in product specifications influence market transactions and why agricultural markets are changing.

Verifying Product Specifications

Increased consumption of processed foods, greater demand for ethnically diverse meals, and greater demand for higher quality food products have led to changes in industry specifications for dry beans. Traditionally, dry beans were traded using broad USDA-style grades. Now such grades are being replaced by specifications that are more complex and that more clearly reflect the types of products consumers are demanding.

For example, canning firms in the industry have developed their own product specifications, which vary from firm to firm. As a result of changing product specifications, trade between farmers, elevators, and canners now involves a high level of interaction between market participants (canners that purchase beans from elevators, which purchase beans from farmers).

Product specifications in the dry bean industry can be separated into three general categories. The first category consists of product attributes commonly found in USDA standards (but with more stringent tolerance levels) such as specifications on foreign matter, moisture content, broken seeds, color, and uniformity of size.

The second category is similar to the first but includes a specification for post-canning quality. Canning quality, or seed integrity, determines the appearance of the product after it has been canned. Because seed integrity consists of so many variables, it is difficult to develop an objective pre-canning test that identifies the beans' quality (which is why it has not been included in USDA specifications). Seed-coat checks—defined as small breaks in the seed coat—are an objective measure commonly used for this purpose. Unfortunately, seed coat checks do not always predict post-canning quality, and there is no consensus on what constitutes a seed coat check. The third category is specifications for organic dry beans, a small segment of the bean industry.

An important factor in determining what form of marketing will prevail (i.e., spot market or production contract) is related to how easily buyers can verify that their

Food & Marketing

specifications have been met. This varies by category.

Specifications in the first category (e.g., foreign matter or moisture content) are far tighter than USDA's, but one can easily test for them. This makes trade operate smoothly. Because it is easy to verify these product quality characteristics, the buyer can choose not to purchase from suppliers who are unable to provide the desired quality. In addition, price premiums can easily be used to induce growers to provide the desired product.

The canner-elevator relationship for category 1 is fairly simple. A canner issues a specification that defines tolerance levels for different attributes, and the elevator fills the order. Very little further interaction is required. Upon receiving a shipment, a canner inspects the product to see if it meets specification. Since the attributes are easily checked, the elevator has a powerful incentive to meet the canner's specifications. The elevator-farmer relationship for category 1 is also fairly simple. The fact that an elevator can easily identify the needed attributes means it can offer premiums to farmers who grow products with these attributes.

Product attributes in category 2 are slightly more difficult to test for because there is no standard definition for canning quality. Different canners have various expectations of canning quality and require elevators to perform various tests on the beans they purchase. Many elevators have developed canning labs to test the product to make sure it meets a given canner's specification. If an elevator is unsure whether or not the canning quality specification has been met, it will send a sample to the canner for product evaluation, which includes canning trials to see how the beans actually perform. These canning trials accurately identify quality, making seed integrity an observable attribute.

The relationship between canners and elevators regarding the second category of dry bean attributes is far closer than for category 1, because it is difficult for canners to specify exactly what they wish to purchase. A high level of interaction and coordination is required to communicate what product is needed and to agree upon a price, which is a very subjective process. However, while these specifications are complex, a production contract is rarely used. Instead, canners test products and monitor shipments. This works effectively because the specifications are observable.

Canning quality specifications also complicate the farmer-elevator transaction, but they do not necessitate the use of production contracts. Because farmers have a tremendous amount of control over canning quality—which is affected by seed variety, timing of harvest, and handling procedures—elevators have developed education programs to show farmers what types of products to grow, and offer premiums for high quality beans. Elevator managers have found that education programs are more effective than production contracts in obtaining nonstandard goods because a contract alone does not guarantee quality.

In contrast, attributes in the third category—specifications for organic products—are difficult to observe. There are no tests that can be used to verify that a product is organic, which complicates marketing relationships.

Interestingly, farmers growing organic products have moved into the elevator stage of production or "forward integrated." Trade for organic products requires a significant amount of monitoring for compliance, and forward integration eliminates one stage of the supply chain that the canner must oversee. The level of coordination between buyer (canner) and seller (farmer) is very high because it is impossible to tell by observation if the product being traded is organic.

Facts on Dry Bean Production

World's largest producers

India (25 percent of world total), Brazil (15 percent), and China (just over 10 percent), U.S. (10 percent), Mexico (10 percent)

Dry bean varieties grown in the U.S.

Most prominent: pinto, navy, great northern, kidney

Others: lima, blackeye, black, cranberry, garbanzo, pink, small red, small white

Major producing states

North Dakota, Michigan, Nebraska, California, Colorado

Pinto production

North Dakota (45 percent of U.S. total), Colorado (20 percent), Nebraska (10 percent)

Navy production

Michigan (57 percent), North Dakota (26 percent), Minnesota (10 percent)

Great northern production

Nebraska (85 percent), Idaho (6 percent)

Light red kidney production

California (23 percent), New York (20 percent), Nebraska (17 percent)

Dark red kidney production

Minnesota (45 percent), Michigan (16 percent), Wisconsin (16 percent)

Because all organic products must remain identity preserved and cannot be co-mingled with any other dry beans, organic beans are traded exclusively through contracts between growers and canners.

Even with contracts, canners are still concerned that growers might provide a nonorganic product. To address this concern, buyers visit growers several times a year (even though growers have organic certification) to make sure that they are providing a product that is truly organic.

Implications for Commodity Marketing

If the desired attributes for a commodity can be identified through inexpensive testing procedures, then traditional market forces are more likely to coordinate transactions between buyers and sellers. But when testing procedures are not available, are too costly, or are difficult to use (as with organic beans), spot market trades encounter difficulties, with the potential for a supplier to provide an inferior product without the buyer's knowledge. In this case, it may be necessary for traders to engage in production contracts that clearly specify the product that is desired and how it is to be produced and handled.

Some nonstandard agricultural products with observable attributes (e.g., high-oil corn and waxy corn) are traded via production contract. However, this strategy is often employed by private firms to capture returns from seed development rather than to achieve efficiency in moving nonstandard products between buyers and sellers. This incentive to contract is not present in the dry bean industry because new seed varieties have traditionally come from land grant universities.

Evidence from the dry bean industry suggests that some observers may be underestimating the ability of traditional markets to handle a growing array of agricultural products. Even as commodity specifications have become increasingly complex, the use of spot markets and marketing contracts continues to effectively coordinate buying and selling of nonstandard dry beans. Rather than replacing market mechanisms with production contracts, buyers use education programs and monitoring activities to ensure customer demands are met. AO

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Resources & Environment

Reducing Nitrogen Flow To the Gulf of Mexico: Strategies for Agriculture

A zone of hypoxic, or oxygen-deficient, water in the northern Gulf of Mexico stretches from the Mississippi Delta westward along the Louisiana coastline to Texas. At peak periods, the hypoxic zone covers an area of about 7,000 square miles, nearly as large as New Jersey. Located in the midst of one of the most important commercial and recreational fisheries in the U.S., the hypoxic zone poses a threat to the aquatic environment that supports these fisheries.

Hypoxia is a deficiency in breathable oxygen sufficient to cause damage to living animal tissue. The hypoxic zone in the Gulf of Mexico is the result of nutrient-laden water flowing into the Gulf from the Mississippi River. The nutrients support unchecked growth of microscopic plants and animals that use up dissolved oxygen in coastal waters, depriving other forms of aquatic life of adequate oxygen to survive. Although the size of the hypoxic zone varies during the year and some Gulf creatures are capable of fleeing the "dead zone," the potential for damage to the coastal fishing industry—particularly the fish, shrimp, and crab harvests—remains substantial.

While the interaction of several features of the Gulf have led to formation of the hypoxic zone, the primary cause of hypoxia in these waters is high loads of nitrogen in the discharge from the Mississippi River. Therefore, any effort to control hypoxia in the Gulf must concentrate on reducing excess nitrogen releases (soil nutrients that can be washed away if unused by plants) into the environment of the Mississippi River basin.

The multiple sources of nitrogen within the basin include atmospheric deposition (rainfall), septic systems, municipal and industrial activities, and farm operations (commercial fertilizer and animal manure use, legume production, and mineralization of soil nitrogen). Data from the U.S. Geological Survey indicate that agriculture contributes an estimated 65 percent of nitrogen loadings to the Gulf from the Mississippi River.

While uncertainty remains about the reduction in excess nitrogen releases needed to stabilize the hypoxic zone, the best scientific judgement is that it will take a 20-percent reduction in nitrogen from agricultural sources within the Mississippi River basin to achieve this goal. Further, the Mississippi River basin is so extensive (part or all of 31 states) that nitrogen reduction policies directed at agricultural producers in the basin will affect the entire farm sector.

In 1998, the White House Committee on Environment and Natural Resources initiated a study to assess the costs and benefits of reducing nitrogen emissions into the Gulf of Mexico. USDA's Economic Research Service (ERS) contributed to the study by analyzing the economic and environmental effects of three strategies for reducing excess nitrogen releases into the Mississippi River basin: reducing nitrogen use, restoring wetlands, and combining wetland restoration with reduction in nitrogen use. The results indicate expected impacts on commodity prices, net cash returns to crop and livestock producers, exports of major commodities, and nontargeted environmental emissions, as well as social costs.

Strategies to Cut Ag Nitrogen In the Mississippi River Basin

Improved nutrient management practices that require less nitrogen fertilizer can help reduce excess nitrogen runoff into the Mississippi River basin. Farmers can *reduce nitrogen fertilizer use* by cutting application rates (lowering production costs and possibly yield), by utilizing nitrogen fertilizer more efficiently, or by switching to crop rotations that include legumes to fix airborne nitrogen in the soil. Nutrient efficiency (the proportion of available nitrogen utilized by plants) increases when fertilizer applications are timed to match crop needs and/or when fertilizer application rates are based on soil test estimates of available nitrogen.

There is some evidence that many farmers apply more nitrogen than needed to

The White House report on hypoxia in the Gulf of Mexico was released on October 20 and is available at www.nos.noaa.gov/welcome.html.

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Nitrogen Reduction Strategies in the Mississippi River Basin Lead to Higher Prices and Lower Exports

	Unit	Price effect of strategy: Base price	Cut nitrogen use	Restore wetland	Mixed approach	Export effect of strategy: Base quantity	Cut nitrogen use	Restore wetland	Mixed approach
		$/unit	*Percent change*			*Million*	*Percent change*		
Crops									
Corn	*Bu.*	2.80	21.9	13.07	9.22	2,624.9	-12.5	-7.4	-5.3
Sorghum	*Bu.*	2.50	27.2	11.41	10.56	285.0	-31.8	-13.3	-12.4
Barley	*Bu.*	2.60	8.35	4.74	3.29	70.0	-11.9	-6.6	-2.1
Oats	*Bu.*	1.70	14.22	21.28	7.53	3.0	-9.2	-13.8	-4.9
Wheat	*Bu.*	4.30	9.23	3.29	3.5	1,375.0	-17.3	-6.2	-6.6
Rice	*Cwt*	10.31	2.47	6.4	2.8	64.0	-5.3	-13.8	-6.1
Soybeans	*Bu.*	6.45	-1.01	10.29	1.97	910.0	0.8	-8.0	-1.5
Cotton	*Bale*	331.20	5.15	4.75	4	6.7	-6.8	-6.3	-5.3
Silage	*Ton*	21.69	3.05	2.24	1.54				
Hay	*Ton*	60.48	0.25	2.33	0.71				
Livestock									
Hogs	*Cwt*	42.07	8.07	6.68	3.88				
Nonfed cattle	Cwt	53.22	1.41	0.92	0.6				
Fed cattle	*Cwt*	69.42	3.54	2.73	1.67				
Meat, dairy, poultry									
Milk	*Cwt*	14.10	1.63	1.25	0.77				
Butter	*Lbs.*	1.06	3.83	2.93	1.8	*	-2.3	-1.8	-1.1
American cheese	*Lbs.*	1.32	1.61	1.23	0.76	*	-1	-0.7	-0.5
Broilers	*Lbs.*	0.35	3.77	4.38	2.26	6,292.4	-2.3	0	0
Eggs	*Doz.*	0.69	4.1	3.4	1.97	290.0	-2.5	0	0
Fed beef	*Cwt*	308.04	1.79	1.38	0.85	17.5	-1.1	0	0
Nonfed beef	*Cwt*	235.49	0.77	0.5	0.32				
Veal	*Cwt*	512.38	0.12	0.09	0.06	0.1	-0.1	0	0
Pork	*Cwt*	207.98	2.34	1.94	1.12	11.2	-1.4	0	0
Processed products									
Soybean meal	*Cwt*	10.50	-2.07	8.16	1.46	128.0	2.3	-9.1	-1.6
Soybean oil	*Cwt*	24.00	1.4	9.49	2	23.5	-1.7	-11.9	-2.5

Cut nitrogen use = Reduce nitrogen fertilizer use by 40 percent. Restore wetland = Convert 18 million acres of farmland to wetland. Mixed approach = Reduce nitrogen fertilizer use 20 percent and convert 5 million acres of farmland to wetland.
* = Less than 0.1.
Based on estimates from the ERS U.S. regional agricultural model.

Economic Research Service, USDA

achieve optimal yields. In those cases, reducing nitrogen application rates should have little impact on yields, leading to a "win-win" solution where excess nitrogen releases are cut and farmers' incomes are increased because of lower input costs. However, overapplication of fertilizer may be a result of annual variation in growing conditions—in a year of good weather, plants utilize more nitrogen and little or no excess exists. While a constant year-to-year application rate represents an appropriate economic response to this uncertainty, it can lead to application of nitrogen in amounts that exceed what plants actually need during a specific growing season. This suggests that unless uncertainty created by fluctuating weather conditions can be reduced, cutting nitrogen application rates would impose significant costs on many producers and the agricultural sector overall.

Another strategy for cutting nitrogen runoff is to *create vegetative buffer strips and wetlands* that filter nitrogen from agricultural runoff by means of plant uptake (absorption) or by emitting it to the atmosphere (nitrogen constitutes 80 percent of earth's air, by volume) through the chemical action of nitrogen and water (denitrification). Restoring wetlands also eliminates nitrogen from the fertilizer that generally would have been applied to the former cropland.

The effectiveness of wetlands as a filter for excess nitrogen loadings has been well documented. A wetland demonstration project in Iowa showed that wetlands retained from 40 to 95 percent of nitrogen contained in water flowing into them.

Because wetlands can treat runoff from large areas, restoring wetlands may be less disruptive to the agricultural sector than reducing nitrogen fertilizer use. Restoring wetlands has the added benefit of providing wildlife habitat and providing flood control. Although buffer strips accomplish much the same purpose as wetlands in filtering nitrogen from runoff and may be suitable in some situations, they are generally less effective than wetlands and were not included in the ERS study.

An alternative to relying strictly on reducing fertilizer use or filtering would be a *mixed approach*—reducing fertilizer use and restoring wetlands. This mixed approach could be less costly than either of the other approaches used separately because it allows greater flexibility in

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reducing excess nitrogen releases. Small reductions in nitrogen use may impose relatively small costs on agriculture producers, as they are able to alter rotations to compensate for chemical fertilizers. As required reductions in use increase, however, costs to agriculture producers become proportionately greater as opportunities for substituting crop rotations for chemical fertilizer are exhausted. The same is likely to be true of wetlands restoration: producer costs accelerate as cropland conversion to wetland rises. By exploiting the low-cost opportunities available under each approach first, it may be possible to reduce the overall cost of achieving the targeted reduction in agricultural nitrogen loadings.

Three Strategies: The Assumptions

ERS used a regional agricultural model to assess the effects of the three strategies for achieving a 20-percent reduction in excess nitrogen releases in the Mississippi River basin. The model predicts how producers will alter production practices (land use, fertilizer application rates, crop rotations, and tillage practices) in response to restrictions or changes in economic incentives. It then estimates how these changes in production practices affect supply and demand for crops and livestock, commodity prices, farm income, and nutrient losses to the environment from soil erosion and nitrogen releases.

ERS found that reducing nitrogen releases from cropland by 20 percent in the Mississippi River basin using improved nutrient management would require a 40-percent *reduction in nitrogen fertilizer use*. The targeted reduction in fertilizer use would be achieved by reducing fertilizer application rates, substituting crop rotations containing legumes for monoculture (continuous same crop), and reducing planted acres. The largest reductions in nitrogen applied per acre would be concentrated in the Corn Belt, where highly productive and nitrogen-intensive crops (those requiring high amounts of nitrogen to achieve a high yield) predominate. The effectiveness of reducing nitrogen releases by targeting nitrogen fertilizer would be impeded by the sizable amount of acreage devoted to legumes. Even though legumes do not generally use nitrogen fertilizer, they fix nitrogen from the air, and some of the nitrogen not taken up by the succeeding crop in the rotation can be lost through the leaching action of surface water.

Using *additional wetlands* to accomplish the targeted reduction in nitrogen loadings would require restoration of 18 million acres of wetlands, a net reduction of 15 million planted cropland acres (3.5 percent of total U.S. cropland) in the Mississippi River watershed. Cropland suitable for wetland restoration was identified and allocated among subregions based on contribution to total excess nitrogen releases in the Mississippi River basin. It was then assumed that the government purchased easements for the identified land from farmers and compensated them for the cost of restoring the acreage to wetland function.

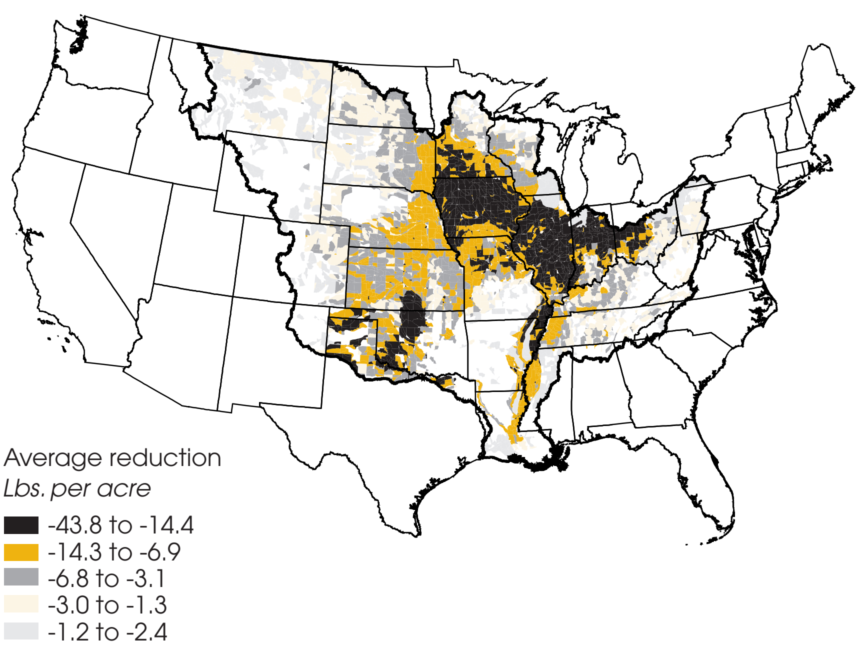
The result showed a concentration of restored wetlands in the Corn Belt and along the Mississippi River. Approximately 25 percent of the achievable reduction in nitrogen loadings in the basin from the wetlands strategy can be attributed to reduction in planted acres, and the remaining 75 percent to the filtering action of wetlands.

Using the *mixed strategy* to achieve a 20-percent reduction in excess nitrogen releases in the basin, the model estimated results based on restoring 5 million acres to wetlands and cutting nitrogen use by 20 percent. Reductions in nitrogen use and planted acres would account for nearly 60 percent of the reduction in nitrogen loadings, with the remaining 40 percent due to wetland filtering.

Comparison of Strategies' Effects

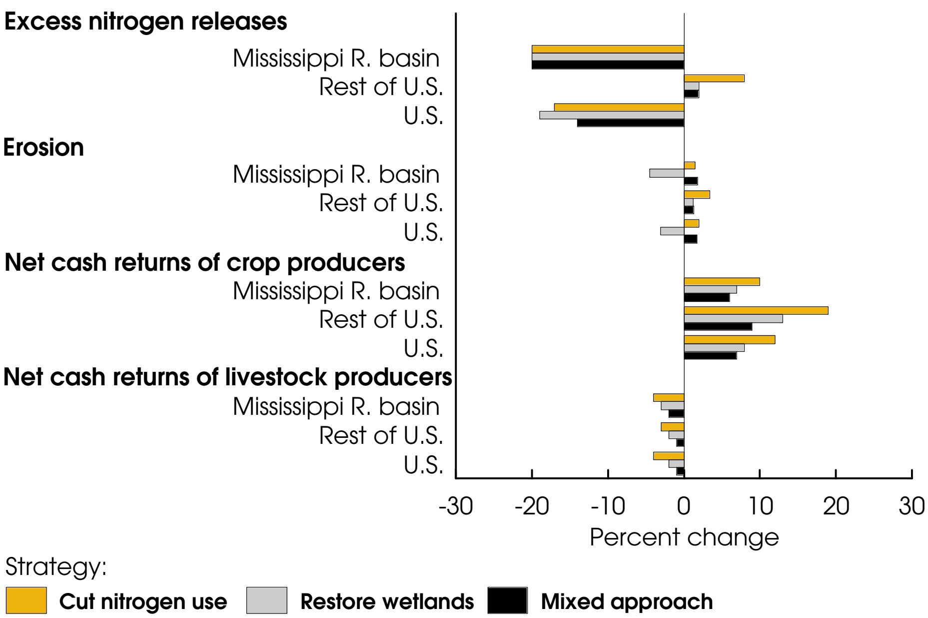
Production and prices. Results indicate that reducing fertilizer use limits the supply of nitrogen-intensive crops— primarily corn and sorghum—and raises prices of these commodities by more than 20 percent. Price increases for other crops are more moderate, ranging from 10 percent for wheat to 2 percent for rice. The price of soybeans declines slightly because soybean production expands as rotations that include soybeans become

Reduction in Ag Nitrogen Use Needed to Lower Nitrogen Flowing into Gulf



Meeting the 20-percent nitrogen reduction target in the Mississippi River basin requires an overall 40-percent decrease in nitrogen fertilizer use on cropland.
Based on estimates from the ERS U.S. regional agricultural model.
Economic Research Service, USDA

Strategies to Reduce Ag Nitrogen Flowing into the Gulf of Mexico Would Affect:



Cut nitrogen use = Reduce nitrogen fertilizer use by 40 percent. Restore wetlands = Convert 18 million acres of farmland to wetland. Mixed approach = Reduce nitrogen fertilizer use by 20 percent plus convert 5 million acres of farmland to wetland.
Based on estimates from the ERS U.S. regional agricultural model.

Economic Research Service, USDA

more profitable relative to other rotations (the exceptions are some parts of the Delta and Southeast). Livestock and fresh meat product prices increase moderately in response to increased grain prices.

Wetland restoration also causes crop prices to increase substantially, but by considerably less than if nitrogen use is restricted. Research results show that prices of corn and sorghum increase by 13 percent and 11 percent because of a drop in total planted acres, but the price of soybeans also increases (by 10 percent) because of decreased production. Soybean production is concentrated in areas where conversion of cropland into wetland is most likely to take place, causing total soybean acreage to fall.

Effects of the wetland restoration strategy on livestock prices are similar to those of the fertilizer reduction strategy. Even though corn and sorghum prices increase significantly less using the wetlands strategy, prices of other important feeds, such as soybeans and hay, increase significantly more, and livestock prices rise.

The mixed strategy that combines wetland restoration with nitrogen reduction has a more moderate effect on commodity prices. The price of corn increases less—up 9 percent v. 13-20 percent under the other two strategies. At the same time, prices of soybeans and hay increase only slightly, and substantially less than under the wetlands strategy. Since corn and soybeans represent the dominant cost of livestock feed, overall feed prices increase significantly less under the mixed strategy, resulting in a more modest increase in livestock product prices.

Because increases in commodity prices from declining domestic production affect the agricultural sector's competitiveness in world markets, the fertilizer reduction strategy, which increases prices the most, causes the greatest declines in agricultural exports.

Net cash returns. Net cash returns to crop producers increase under all three strategies, while net returns to livestock producers decline because of increases in feed costs. The fertilizer reduction strategy has the largest impact on net returns to the farm sector. Net returns to crop producers increase 17 percent and net returns to livestock producers decline 5 percent, nearly double the estimated change in net cash returns under the wetland restoration and mixed strategies.

Within and outside the Mississippi River basin, net returns for cropping enterprises increase by similar amounts. For livestock producers, however, the declines in net returns within the basin are nearly double the drop in the rest of the U.S. This reflects the predominance of high-feed-cost operations (grain-fed livestock) within the Mississippi watershed relative to lower cost grass-fed operations in the rest of the U.S.

Net returns to crop producers increase because gains from increases in commod-

Reducing Fertilizer Use Is Most Cost-Effective of Three Nitrogen Reduction Strategies for Mississippi River Basin

Strategy	Net private costs +	Wetland restoration cost −	Erosion benefits −	Wetlands benefits =	Total social cost
			$ million		
Cut nitrogen use	1,961		45		1,916
Restore wetland	17,502	352	51	9,904	7,899
Mixed approach	4,754	119	26	2,751	2,096

Cut nitrogen use = Reduce nitrogen fertilizer use by 40 percent. Restore wetlands = Convert 18 million acres of farmland to wetland. Mixed approach = Reduce nitrogen fertilizer by 20 percent plus convert 5 million acres of farmland to wetland. Private costs represent amount necessary to assure that all affected parties are as well off after policy implementation as before—e.g., compensation to farmers whose costs rise because of fertilizer restrictions or whose income potential drops when cropland is converted to wetland.
Based on estimates from the ERS U.S. regional agricultural model.

Economic Research Service, USDA

ity prices outweigh losses from reduced production, reflecting the price impact of a production decline in an area as large as the Mississippi River basin. Since the demand for agricultural commodities is generally unresponsive to changes in prices, the percentage increase in price resulting from a production decline is greater than the percentage reduction in production itself.

However, gains and losses are not distributed evenly across the basin. All three strategies will cause cropping to cease on some acreage within the basin and alter production practices on others, but overall, production of crops high in potential excess nitrogen releases shift out of the basin, increasing excess nitrogen releases in the rest of the U.S. For example, if the price of corn rises high enough because of cutbacks within the Mississippi River basin, farmers farther east in the Middle Atlantic states may find it profitable to plant additional acreage to corn. Some farmers in the basin may experience severe declines in net returns, while others may reap substantial benefits.

Environmental indicators. Wetland restoration outperforms both the nitrogen reduction and mixed strategies with respect to impact on soil erosion from water, damage from erosion, and excess nitrogen releases from farmland. The reduction in planted acreage resulting from wetland restoration leads to a 5-percent decrease in water erosion within the Mississippi River basin but a slight increase in erosion in the rest of the country. It also leads to small increases in nitrogen loadings outside the Mississippi River basin as farmers adjust acreage and enterprise mix to market conditions resulting from changes within the basin.

Restricting nitrogen fertilizer use, on the other hand, leads to significant increases in erosion both within and outside the basin. Erosion increases because some farmers within the basin switch to rotations with soybeans—a commodity with production practices that are generally more erosive than crops in current rotations. In addition, the fertilizer reduction strategy leads to an 8-percent increase in excess nitrogen releases outside the Mississippi River basin as farmers there increase production of nitrogen-intensive commodities in response to higher prices

The mixed strategy also leads to increased water erosion within the basin, but since the mixed strategy has less impact on commodity prices, it has less effect than the others on erosion and nitrogen loadings in the rest of the country.

Social cost. Net social cost of the three strategies—the total impact on society as a whole—is the combination of:

- the change in producer and consumer welfare resulting from changes in production costs and commodity prices (net private costs);
- plus costs of restoring wetlands;
- minus net environmental benefits from establishment of additional wetlands and changes in wind and water erosion.

A policy of restrictions to cut nitrogen fertilizer use by 40 percent represents the most cost-effective strategy (least cost to achieve targeted reduction) for meeting the targeted 20-percent reduction in nitrogen loadings. The mixed strategy, however, is nearly as cost-effective as the nitrogen reduction strategy. The mixed strategy also has some desirable features that are not captured by a simple cost-effectiveness measure, including a smaller impact on prices that results in smaller adjustments throughout the nation.

Wetland restoration is the least cost-effective approach for reducing excess nitrogen releases, even though nearly half the costs associated with restoring wetlands are offset by benefits from increasing wildlife habitat. The main reason for the relatively low cost-effectiveness of wetland restoration is the high cost of taking productive farmland out of production—i.e., decreasing the overall efficiency of agricultural production—and the substantial costs of restoring wetland functions.

Although agriculture is just one of a number of sources contributing to high nitrogen loadings in the rivers and streams of the Mississippi River watershed and the resultant hypoxic zone in the Gulf of Mexico, evidence indicates that an estimated 65 percent of water-borne nitrogen carried down the Mississippi River into the Gulf derives from agricultural production. Changing agricultural production practices—especially reducing fertilizer use—and converting farmland to wetland can play a significant role in reducing excess nitrogen in waters flowing into the waters of the Gulf. AO

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10 World Agricultural Supply and Demand Estimates (8:30 a.m.)
*12 Oil Crops Outlook (4 p.m.)***
*15 Feed Outlook (9 a.m.)***
*15 Wheat Outlook (9 a.m.)***
*17 Vegetables and Specialties**
*18 Rice Yearbook**
*19 Agricultural Outlook**
*22 Cotton and Wool Yearbook**
U.S. Agricultural Trade Update (3 p.m.)
23 Livestock, Dairy, and Poultry (4 p.m.)
*30 Outlook for U.S. Agricultural Trade**

*Release of summary, 3 p.m.
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Special Article

Implementation of Uruguay Round Tariff Reductions

The "Quint" group of major agricultural trading nations—the U.S., the European Union (EU), Japan, Canada, and Australia—met September 30-October 1 to discuss objectives for the next round of multilateral trade negotiations. One of the main U.S. objectives of the next trade round is to achieve further cuts in agricultural tariffs.

Prior to the last round of negotiations—Uruguay Round (1986-94)—tariffs on agricultural goods, in sharp contrast to manufactured goods, were scarcely touched. Even in cases where they were reduced, impact on trade was often lessened by the existence of nontariff barriers (NTB's), including quotas, variable levies, and discretionary import licensing. This changed with the Uruguay Round Agreement on Agriculture (URAA), which required countries to convert agricultural NTB's to ordinary tariffs. The weight of remaining protection in the agricultural sector has now shifted toward tariffs, some of which are extremely high and provide levels of protection that are unevenly distributed across countries, commodity markets, and levels of processing.

Signatories to the URAA agreed to bind new and existing tariffs at levels above which they cannot be raised without penalties. Developed countries further agreed to reduce all agricultural tariffs by at least 36 percent on average over the period 1995 to 2000, with a minimum reduction of 15 percent per tariff-line (refers to the product or products to which the legally established tariff applies). Countries were also to provide a minimum level of import opportunities for products previously protected by NTB's. This was accomplished by creating tariff-rate quotas (TRQ's), which impose a relatively low tariff on imports up to a minimum access level. Because of the generally transparent and quantifiable nature of tariffs, they are considered a highly visible and easily negotiable target for reductions (compared with NTB's) during the next round of trade negotiations, to be launched by the World Trade Organization (WTO) in Seattle on November 30.


Port of Houston Authority

This article, second in an *AO* series on agricultural tariffs, is based on preliminary data from the Agricultural Market Access Database (AMAD), being developed jointly by several organizations, including USDA's Economic Research Service, Agriculture and AgriFood Canada, the European Commission, the United Nations Conference on Trade and Development, and the Food and Agriculture Organization of the United Nations.

Upon completion, the database will contain data at the tariff-line level on market access commitments (tariffs and tariff-rate quotas) of about 50 WTO members. In addition, where available, information on TRQ implementation, trade, applied tariffs, and commodity production and consumption will also be incorporated into the database.

The AMAD is expected to become available to the public early next year. For more information about the AMAD, contact Paul Gibson at pgibson@econ.ag.gov.

While none of the Quint group countries has indicated the extent to which agricultural tariffs should be reduced, it is generally believed that the U.S., Canada, and Australia will favor somewhat deeper cuts than the EU or Japan. This article compares the level and nature of tariff protection in these countries at the conclusion of the Uruguay Round and at the outset of the next round, and highlights those sectors in each country where tariffs remain particularly high.

Selective Cuts Minimize Impacts

Under the URAA, countries had a great deal of flexibility in deciding how much each agricultural tariff would be cut, so average reductions vary by country. Australia cut 75 percent of its agricultural product tariffs by levels above the required 36-percent average, resulting in the largest average reduction at 48 percent. The other countries all slightly exceed the average requirement, with overall cuts of 37 to 38 percent. Canada was unique in cutting both within-quota and over-quota tariffs of their TRQs; other countries cut only the over-quota tariffs.

All countries except Australia tended to reduce their ad valorem tariffs (tariff as a percent of product value) by greater amounts than other tariffs (e.g., specific monetary amount per unit of product). Studies that calculated ad valorem equivalents (AVE) for these other tariffs indicate that the top 20 rates in the EU,

Comparing Tariffs

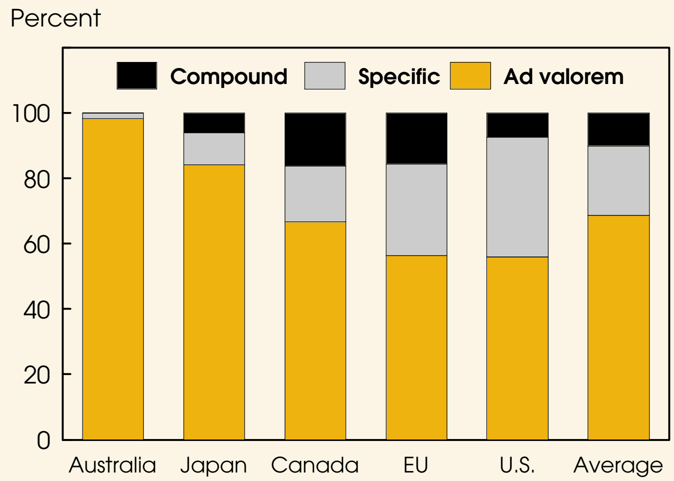
Comparing tariff schedules across countries is difficult for a number of reasons. First, countries levy tariffs in a number of ways: 1) as a percentage of the value of imports (*ad valorem tariffs*), 2) as a monetary amount per unit of import (*specific tariffs*), or 3) as a combination of the two (*compound tariffs*). The percentage of bound agricultural tariffs among the Quint countries levied on an ad valorem basis ranges from 98 percent in Australia to 56 percent in Japan and the U.S. After the Uruguay Round provisions have been fully implemented, ad valorem rates will account for 69 percent of all agricultural tariffs in the Quint.

Essentially, one wants to compare the level of protection provided by each tariff over time. While it is easy to gauge the relative protection provided by two ad valorem tariffs, analyzing their non-ad valorem counterparts requires calculation of an ad valorem equivalent (AVE)—dividing the non-ad valorem tariff by an import price or import unit value. The level of protection of a non-ad valorem (on a percentage basis) varies inversely with import price—a decline in import price yields an increase in the level of protection (and vice versa).

Once AVE's have been calculated, relevant comparisons of tariffs across countries usually require calculation of a mean tariff, at the country or commodity level. The mean tariff helps account for differing levels of precision in countries' tariff schedules. For instance, in the category *cheese and curds*, there are seven tariff lines for Australia and Japan, 34 for Canada, 48 for the EU, and 129 for the U.S.

There are a number of ways to compute tariff means, none of which is without bias. The most common—used in this study—is a simple (unweighted) arithmetic average. Applying no weighting scheme is considered by some to be inferior to weighting—a "simple average" gives equal weight to kumquat imports and wheat imports, if each enters as a single tariff-line item under the national tariff nomenclature.

Ad Valoren Tariff Is Most Common Type of Ag Import Duty



"Ad valorem" tariff is a percentage of product value; "specific" refers to amount per imported quantity; "compound" is a combination of the two.
Economic Research Service, USDA

Weighting based on import values, perhaps the most commonly used scheme, may bias average tariff estimates downward, because items with the highest tariffs will receive virtually no weight as almost no imports will enter under such tariffs. Weighting based on shares of domestic value of production would be preferable since highly protected commodities produced in large amounts would get large weights, but production data at the tariff-line level are rarely available. Therefore, to calculate a national average, a tariff-weighting scheme is often based on simple (unweighted) averages aggregated to a level where data on appropriate production weights are available, as was done by the Organization for Economic Cooperation and Development in a recent analysis. Ultimately, there is no ideal weighting scheme.

Japan, and Canada and the top 16 in the U.S. are non-ad valorem tariffs. Given that these tend to be less transparent than ad valorem tariffs, it is not surprising that countries would apply this form of tariff to their most highly protected products.

The use of tariff protection for agricultural products is most widespread in the EU, followed by the U.S., Japan, Australia, and Canada, as measured by the proportion of duty-free most-favored-nation (MFN) tariff lines. All countries show a marked increase in the proportion of items that will be duty-free after all of the Uruguay Round reductions are implemented. For the Quint as a whole, this proportion will increase from 20 to 25 percent by the year 2000. The provision that no individual tariff need be cut more than 15 percent—a modest reduction given the high level of some agricultural tariffs—allows countries to continue sheltering import-sensitive commodities from international competition. Canada, Japan, and the U.S. each utilized this provision extensively by reducing about 30 percent of their tariff-lines by the 15-percent minimum. In contrast, Australia cut 98 percent of its tariffs by more than the minimum, while the EU reduced all its tariffs by at least 20 percent.

The smallest cuts tended to be made on the over-quota tariffs of products protected by TRQ's. Included in this category for Canada are poultry and dairy products; for Japan, grain and dairy products; and for the U.S., sugar, peanuts, and dairy products. Not only were these tariffs reduced by significantly smaller amounts than other tariffs, but they tended to be higher to begin with.

Today, the majority of all tariffs are ad valorem. Agriculture is somewhat unique in the extent to which specific or compound tariffs are still used, largely because of the increased protection that they can provide against large drops in import prices.

Special Article

Average Tariff Reductions Reflect Size of Cuts and Level of Tariffs

	Average tariff cut in:			Share of tariffs reduced by:		
	Ad valorem[1]	Other[2]	All tariffs	15%	>15% - 36%	> 36%
	Percent			*Percent*		
Australia	44	81	48	2	23	75
Canada	43	34	38	26	50	23
European Union[3]	42	32	37	0	82	18
Japan	39	27	37	31	15	54
U.S.	38	37	37	29	36	35

Simple unweighted average tariff cuts following implementation of Uruguay Round Agreement on Agriculture.
1. Tariff as a percentage of product value. 2. Includes all other tariffs for which a reduction rate could be calculated. 3. Includes reductions in within-quota tariffs.

Economic Research Service, USDA

"Base" tariffs reflect the level of tariff protection built into each country's agricultural sector at the conclusion of the Uruguay Round and are the starting point for making yearly reductions. Bound tariffs are the maximum MFN rate (non-discriminatory tariffs extended among WTO members) that a country will be able to charge on imports after the URAA provisions have been fully implemented. However, countries may choose to apply a tariff below the bound rate, and often do, particularly for imports from trading partners that have been granted preferential rates or exemptions (such as under NAFTA). Since MFN tariff schedules will most likely be the subject of negotiations at the next round, it is the bound MFN tariffs that are compared here.

The most striking feature of each country's tariff profile is its low overall level. By 2000, bound tariffs will average below 10 percent in each of the Quint countries, with levels lowest for Australia, followed by Canada, the U.S., EU and Japan. The calculated means exclude non-ad valorem tariffs, since non-ad valorem tariffs cannot be averaged without making assumptions about the level of import prices and exchange rates in the year 2000. Thus, the calculated mean tariff cannot be interpreted as a reflection of the overall restrictiveness of a country's trade policy. Border protection is actually higher than indicated by the mean of a country's ad valorem tariffs, because non-ad valorem tariffs tend to be more protective than their ad valorem counterparts. On the other hand, a great deal of trade takes place at tariff levels below the MFN level (including preferential rates under trade agreements like NAFTA). If the actual tariffs at which trade took place were included in the calculation, the mean would be lower.

The Canadian tariff schedule provides an excellent example of this disparity between the two types of tariffs. A large number of Canada's compound tariffs take the form of alternate duties (constructed to provide added protection by hedging against changes in import prices), which allows easy approximation of an AVE. Canada's bound tariff on butter in 2000, for instance, will equal 298.7 percent, *but not less than C$4,001 per metric ton*. The AVE of such a tariff could be higher than 298.7 percent should import prices fall below C$1339.47 per metric ton (4001 divided by 2.987), while ensuring a minimum 298.7-percent ad valorem protection when import prices are above this level. Combining the ad valorem portion of these tariffs with Canada's ad valorem rates gives overall base and bound simple means equal to 31.3 and 25.3 percent (over 917 tariff lines), respectively, versus means of 7.4 and 4.8 percent (over 762 tariff lines).

The economic and trade distortions associated with a country's tariff structure depend not only on the size of its tariffs, but also on the dispersion of these tariffs across all products. Two ways to describe this is *standard deviation* from the mean value, which measures absolute dispersion among all values in the group, and *percentage of tariff peaks*, or the proportion of products for which the tariff level exceeds some multiple of the mean.

Based on standard deviation, ad valorem tariffs for Australia show the most uniformity, while those for Canada exhibit the most dispersion around the mean. While evidence provided by the standard deviation is by no means conclusive, in general the more dispersion in a country's tariff schedule, the greater the distortions caused by tariffs on production and consumption patterns. Farmers will tend to increase production of those products protected by high tariffs, while consumers will tend to shift their purchases from products subject to high tariffs to competing products with lower costs (due to lower or zero tariffs).

With all tariffs cut by at least 15 percent, dispersion in each country as measured by standard deviation declines between the base and bound tariff schedule. But when measured as the proportion of tariff lines that are over three times the country mean (referred to as tariff peaks), dispersion increases between base and bound tariffs in each country, except Australia. An increase in tariff peaks occurs when high tariffs are reduced by less than the average reduction over all tariffs. The greater the percentage of tariff peaks in a country's schedule, the greater the potential economic distortions, especially when highly substitutable products are available on the domestic or international market. Products with ad valorem tariffs that are greater than three times the mean tariff include: for Australia, potatoes and some flours and meals; for Canada, wheat, barley, and certain meat products; for the EU, tobacco products and some fruit juices; for Japan, selected processed cheeses and meats; and for the U.S., peanuts, peanut butter, and certain fruits.

Lower levels of tariff protection do not always mean the tariff schedule is less distorting. Australia, which has the lowest mean and standard deviation in its ad valorem tariffs, also has the highest proportion of tariff peaks, while Canada, which has the second-lowest mean and the lowest proportion of tariff peaks, has the highest standard deviation.

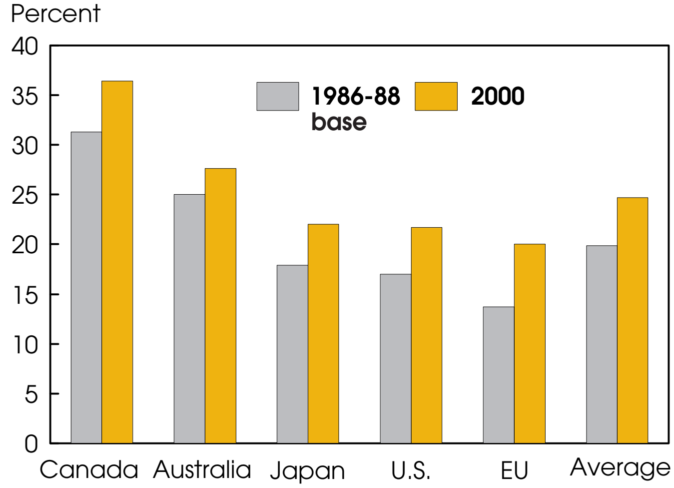
By 2000, mean ad valorem base tariffs will have fallen by 37 percent in Japan and the U.S., 36 percent in Canada, 34 percent in the EU, and 33 percent in Australia. Without exception, however, reductions in the mean tariff are less than the average reduction over all ad valorem tariff lines, an indication that low tariffs were reduced by a larger amount than high tariffs.

The largest share of each country's ad valorem tariffs is less than or equal to 5 percent—ranging from 73 percent of Australia's tariffs to 44 percent of Japan's. The less-than-5-percent category includes what are sometimes referred to as "nuisance" tariffs, so small as to not be an impediment to trade but still require paperwork. All countries tended to cut tariffs in this category by the greatest amounts, ranging from average reductions of 76 percent in the EU to 47 percent in the U.S. To the extent that these tariffs were already small enough to allow unlimited imports, these cuts would not likely result in any appreciable trade increases.

Tariff rates between 5 and 15 percent account for between one-quarter and one-third of ad valorem tariffs in Quint countries. Countries tended to cut tariffs of this size by less than those in the 0-5-percent range, but by more than their higher tariffs. The one exception was Australia, which tended to cut tariffs of over 15 percent by larger amounts. For all countries, the average cuts in both this category and the 15-25-percent category were fairly significant, ranging from 30 to 48 percent, leading to the conclusion that any significant trade expansion resulting from the Uruguay Round tariff reductions probably occurred for products found in these two categories.

Tariffs over 25 percent include a relatively small number of critically important tariffs, a great proportion of which are the over-quota tariffs of a TRQ. Tariffs in this group tend to provide solid protection to a country's domestic industry, and are sometimes high enough to preclude trade. For this reason, countries agreed to create TRQ's during the Uruguay Round, to ensure that at least a minimum amount of import opportunity existed for these products. Most of the tariffs that were reduced by the minimum amount allowable are found in this category. As these are the tariffs that countries reduced by the least amounts and apparently value the most, further reductions will no doubt encounter the greatest resistance in the next round.

Canada Leads in Share of Ag Products Entering Duty-Free



Based on total tariff lines.
Economic Research Service, USDA

A subset of the final category are the megatariffs, often defined as tariffs greater than 100 percent. Megatariffs are sometimes referred to as redundant tariffs, because they could be reduced significantly without actually improving market access. Only Canada (with four) and the U.S. (with five) will have ad valorem tariffs of over 100 percent after 2000. The relatively low number of ad valorem tariffs at high protection levels results from countries favoring non-ad valorem tariffs for their most sensitive products, as demonstrated in Canada's tariff schedule. At least 82 of Canada's 429 non-ad valorem agricultural tariffs will be greater than 100 percent in 2000 (using an AVE), even after being subjected to reductions. Sixty-four of these will be greater than 200 percent, with one over 300 percent.

Average Tariffs Decline Under URAA, but Tariff Peaks Generally Increase

	Base tariffs (1986-88)			Bound tariffs		
		Dispersion			Dispersion	
	Simple mean[1]	Standard deviation[2]	Tariff peaks[3]	Simple mean[1]	Standard deviation[2]	Tariff peaks[3]
		Percent			*Percent*	
Australia	5.8	8.4	8.5	3.8	5.2	7.9
Canada	7.4	19.0	3.0	4.8	15.6	3.5
European Union	11.5	11.4	1.8	7.6	8.3	4.8
Japan	15.2	15.6	3.9	9.5	10.1	4.5
U.S.	8.0	15.6	5.9	5.1	12.5	6.3

Excludes within-quota tariffs. Bound tariffs are maximum rates country will be able to charge on imports after Uruguay Round Agreement on Agriculture (URAA) is fully implemented in 2000.
1. If within-quota tariffs had been included, the means for most countries would be smaller. Likewise, application of a trade-weighting scheme would also result in lower mean tariffs. 2. Variation on either side of the mean of a country's tariff levels. 3. Percentage of ad valorem tariffs exceeding three times the mean.

Economic Research Service, USDA

Special Article

Lowest Tariffs Received Highest Cuts Under URAA

		Original tariff level			
		0 - 5%	5 - 15%	15 - 25%	over 25%
		Percent			
Australia	Share of total	73	24	3	1
	Average reduction	49	35	48	49
Canada	Share of total	65	32	1	2
(incl. within-quota)	Average reduction	61	36	24	22
European Union	Share of total	46	35	15	4
	Average reduction	76	38	30	28
Japan	Share of total	44	31	17	7
	Average reduction	49	44	34	34
U.S.	Share of total	68	25	4	2
	Average reduction	47	37	32	23

Economic Research Service, USDA

Options for the Next Round

While converting NTB's to tariffs is generally regarded as a significant step in trade liberalization, implementation of tariff cutting provisions of the URAA is generally viewed as an important, but less substantial outcome. Despite the progress made in reducing tariffs, cuts were generally made in such a way as to minimize the resulting trade liberalization. Tariffs most critical for protection of domestic agriculture generally are only a subset of a country's total tariff schedule, and countries tended to make extensive use of the flexibility offered by the Uruguay Round provisions to reduce these tariffs by the lowest amounts allowable.

Agricultural tariffs tend to be higher than those on manufactured items, and in addition are unevenly distributed across countries and commodities. Tariffs provide greater transparency over NTB's, but some tariffs still pose significant impediments to market access and involve high costs to agricultural producers in exporting nations and to consumers in importing nations. Achieving significant reductions of tariffs will be one of the central objectives of the next round. For products with the highest tariffs, even significant reductions may not actually make markets more accessible to foreign competitors. Cutting these tariffs enough to increase trade flows implies some sort of tariff-cutting formula, such as that proposed during the Tokyo Round (1973-79), might be used to achieve deeper cuts for high tariff rates.

Another important aspect of tariff schedules is the distortion associated with rates that vary over a wide range. Increases in tariff dispersion could result in a country's trade becoming more rather than less distorted. This distortion can easily increase when implementation of tariff reductions allows a bias toward smaller reductions for higher tariffs.

Should some tariffs be eliminated rather than reduced? Previous rounds have seen proposals to eliminate "nuisance" tariffs (those under 2 or 3 percent) to avoid negotiating tariff reductions that have little or no effect on world trade. An early agreement to eliminate these tariffs would do little to increase trade, but would prevent countries from claiming the reduction as a concession. Evidence from the URAA clearly demonstrates that countries tended to reduce these tariffs by large amounts in order to reach the 36-percent average cuts required over all tariffs.

Similarly, within-quota tariffs associated with TRQ's could be eliminated for the same reason. Since it was expected that countries would charge "low or minimal duties" to provide minimum access, cuts in within-quota tariffs can be viewed as being largely redundant. They do not result in market expansion since imports in excess of the quota are subject to the higher over-quota tariff. The existence of within-quota tariffs also makes it difficult to determine why some TRQ's are not being filled. Either the TRQ is being administered in a way that dissuades importers from taking advantage of the minimum access amount, or the domestic price is less than the imported price (including tariff). In the latter case, this may be because the within-quota tariff has been set so high as to nullify the access opportunity. A simple way to assure that these tariffs are not the reason for unfilled quotas, particularly if the next round results in an agreement to increase these quotas, is to eliminate them altogether.

Finally, eliminating use of non-ad valorem tariffs (i.e., converting them to ad valorem rates) would increase transparency in tariff schedules. Nevertheless, specific tariffs (monetary amount per unit of product) are favored by some countries because the total duty on an import shipment is easier for customs officials to determine, relying only on quantity imported, not quantity times price. But such tariffs conceal the amount of protection by complicating estimation of average tariff levels, and can impede the level of market access promised by tariff reductions should import prices decline, thus increasing the level of protection (AVE) provided by specific tariffs. A suitable alternative to eliminating non-ad valorem tariffs might be to require countries to provide their AVE's to the WTO, so comparisons of protection provided by countries' tariff regimes could be easily made. AO

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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	97	97	--	--	--
Livestock & products	97	--	--	97	95	93	96	--	--	--
Crops	106	--	--	101	98	102	97	--	--	--
Prices paid by farmers (1990-92=100)										
Production items	115	--	--	113	113	--	--	--	--	--
Commodities and services, interest, taxes, and wage rates (PPITW)	117	--	--	116	116	--	--	--	--	--
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	166	167
At home	161	164	167	163	164	164	164	165	166	167
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	45,868	43,922	11,702	11,384	11,368	11,655	11,461	11,062	10,803
Poultry (mil. lb.)	33,667	35,570	37,215	8,580	8,638	9,072	8,930	8,930	9,165	9,400
Eggs (mil. doz.)	6,659	6,884	7,030	1,712	1,691	1,702	1,725	1,765	1,735	1,735
Milk (bil. lb.)	157.4	162.0	165.2	38.9	40.5	42.0	39.7	39.8	41.6	42.7
Consumption, per capita										
Red meat and poultry (lb.)	213.7	220.4	219.0	56.4	54.1	55.0	55.4	55.8	54.5	54.4
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	9,292.5	9,305.0	1,734.0	3,021.0	2,359.2	2,089.4	1,822.9	--	--
Prices[4]										
Choice steers--Neb. Direct ($/cwt)	61.48	64.91	66-72	61.06	62.43	65.04	65.15	66-68	66-70	67-73
Barrows and gilts--IA, So. MN ($/cwt)	34.72	32.42	34-37	22.06	28.83	35.18	35.68	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	68.60	63-68	81.70	75.00	58.10	66.20	74-76	68-72	53-57
Milk--all at plant $/cwt)	15.42	14.65-14.75	12.75-13.65	17.83	15.97	12.87	14.87 0.00	14.80-15.20	12.65-13.35	11.70-12.70
Wheat--KC HRW ordinary ($/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

				1997	1998				1999	
	1996	1997	1998	IV	I	II	III	IV	I	II
	Billions of current dollars (quarterly data seasonally adjusted at annual rates)									
Gross Domestic Product	7,636.0	8,110.9	8,511.0	8,254.5	8,384.2	8,440.6	8,537.9	8,681.2	8,808.7	8,873.4
Gross National Product	7,674.0	8,102.9	8,490.5	8,234.9	8,369.4	8,421.8	8,510.9	8,660.0	8,788.4	8,853.1
Personal consumption expenditures	5,207.6	5,493.7	5,807.9	5,593.2	5,676.5	5,773.7	5,846.7	5,934.8	6,050.6	6,155.0
Durable goods	634.5	673.0	724.7	682.2	705.1	720.1	718.9	754.5	771.2	784.9
Nondurable goods	1,534.7	1,600.6	1,662.4	1,613.2	1,633.1	1,655.2	1,670.0	1,691.3	1,736.0	1,770.6
Food	756.1	780.9	815.3	787.1	796.9	810.2	818.7	835.6	844.1	850.0
Clothing and shoes	264.3	278.0	293.8	280.7	291.0	295.3	293.7	295.1	308.1	313.9
Services	3,038.4	3,220.1	3,420.8	3,297.8	3,338.2	3,398.4	3,457.7	3,488.9	3,543.4	3,599.5
Gross private domestic investment	1,116.5	1,256.0	1,367.1	1,292.0	1,366.6	1,345.0	1,364.4	1,392.4	1,417.4	1,417.4
Fixed investment	1,090.7	1,188.6	1,307.8	1,220.1	1,271.1	1,305.8	1,307.5	1,346.7	1,377.9	1,410.0
Change in business inventories	25.9	67.4	59.3	71.9	95.5	39.2	57.0	45.7	39.5	7.5
Net exports of goods and services	-94.8	-93.4	-151.2	-98.8	-123.7	-159.3	-165.5	-156.2	-196.9	-240.6
Government consumption expenditures and gross investment	1,406.7	1,454.6	1,487.1	1,468.1	1,464.9	1,481.2	1,492.3	1,510.2	1,537.5	1,541.5
	Billions of 1992 dollars (quarterly data seasonally adjusted at annual rates) [1]									
Gross Domestic Product	6,928.4	7,269.8	7,551.9	7,364.6	7,464.7	7,498.6	7,566.5	7,677.7	7,759.6	7,790.6
Gross National Product	7,008.4	7,266.2	7,537.8	7,350.7	7,455.2	7,485.9	7,546.7	7,663.3	7,746.3	7,777.4
Personal consumption expenditures	4,714.1	4,913.5	5,153.3	4,981.0	5,055.1	5,130.2	5,181.8	5,246.0	5,331.9	5,394.8
Durable goods	611.1	668.6	737.1	684.8	710.3	729.4	733.7	775.0	798.9	817.5
Nondurable goods	1,432.3	1,486.3	1,544.1	1,494.3	1,521.2	1,540.9	1,549.1	1,565.1	1,600.9	1,612.1
Food	689.7	699.3	718.0	699.9	706.8	716.3	718.9	730.1	734.3	737.2
Clothing and shoes	267.7	288.4	310.3	292.3	307.4	311.4	309.8	312.5	333.1	336.2
Services	2,671.0	2,761.5	2,879.5	2,804.8	2,829.3	2,866.8	2,904.8	2,917.2	2,946.8	2,981.2
Gross private domestic investment	1,069.1	1,206.4	1,330.1	1,241.9	1,321.8	1,306.5	1,331.6	1,360.6	1,388.5	1,389.7
Fixed investment	1,041.7	1,138.0	1,267.8	1,169.5	1,224.9	1,264.1	1,270.9	1,311.0	1,344.0	1,375.6
Change in business inventories	25.0	63.2	57.4	66.5	91.4	38.2	55.7	44.2	38.7	7.4
Net exports of goods and services	-114.4	-136.1	-238.2	-149.0	-198.5	-245.2	-259.0	-250.0	-303.6	-338.0
Government consumption expenditures and gross investment	1,257.9	1,285.0	1,296.9	1,289.2	1,283.0	1,294.8	1,299.6	1,310.3	1,323.9	1,317.5
GDP implicit price deflator (% change)	1.9	1.9	1.0	1.2	0.8	0.9	1.0	0.8	1.6	1.3
Disposable personal income ($ bil.)	5,534.7	5,795.1	6,027.9	5,879.4	5,937.1	5,988.9	6,052.4	6,133.1	6,205.2	6,278.5
Disposable pers. income (1992 $ bil.)	5,043.0	5,183.1	5,348.5	5,235.8	5,287.1	5,321.5	5,364.1	5,421.2	5,468.2	5,503.1
Per capita disposable pers. income ($)	20,840	21,633	22,304	21,871	22,046	22,192	22,373	22,604	22,811	23,027
Per capita disp. pers. income (1992 $)	18,989	19,349	19,790	19,478	19,632	19,719	19,829	19,980	20,101	20,183
U.S. resident population plus Armed Forces overseas (mil.)[2]	265.5	268.0	270.6	269.0	269.5	270.1	270.8	271.5	272.0	272.7
Civilian population (mil.)[2]	263.9	266.5	269.1	267.5	268.0	268.6	269.3	270.1	270.6	271.2

		Annual		1998	1999					
	1996	1997	1998	Aug	Mar	Apr	May	Jun	Jul	Aug
	Monthly data seasonally adjusted									
Total industrial production (1992=100)	121.4	129.7	135.1	135.7	137.5	138.0	138.4	138.5	139.3	139.9
Leading economic indicators (1992=100)	102.1	103.9	105.5	105.8	107.2	107.1	107.4	107.7	108.0	107.9
Civilian employment (mil. persons)[3]	126.7	129.6	131.5	131.3	133.0	133.1	133.2	133.4	133.3	133.4
Civilian unemployment rate (%)[3]	5.4	4.9	4.5	4.5	4.2	4.3	4.2	4.3	4.3	4.2
Personal income ($ bil. annual rate)	6,425.2	6,784.0	7,126.1	7,164.1	7,374.9	7,406.6	7,430.3	7,486.0	7,502.8	7,541.9
Money stock-M2 (daily avg.) ($ bil.)[4]	3,823.9	4,046.4	4,401.0	4,240.6	4,455.6	4,488.2	4,505.1	4,520.8	4,541.0	4,561.9
Three-month Treasury bill rate (%)	5.02	5.07	4.81	4.94	4.48	4.28	4.51	4.59	4.60	4.76
AAA corporate bond yield (Moody's) (%)	7.37	7.26	6.53	6.52	6.62	6.64	6.93	7.23	7.19	7.40
Total housing starts (1,000)[5]	1,476.8	1,474.0	1,616.9	1,615	1,746	1,577	1,668	1,607	1,670	1,676
Business inventory/sales ratio[6]	1.41	1.38	1.39	1.40	1.36	1.36	1.35	1.34	1.34	--
Sales of all retail stores ($ bil.)[7]	2,465.1	2,546.3	2,696.5	228.1	239.0	240.2	247.2	247.0	249.5	253.1
Nondurable goods stores ($ bil.)	1,457.8	1,505.4	1,563.8	134.6	137.4	138.7	143.3	143.9	144.6	146.0
Food stores ($bil.)	424.2	432.1	443.0	36.8	38.3	38.3	38.3	38.2	38.3	38.5
Apparel and accessory stores ($ bil.)	113.0	116.8	124.2	10.6	10.9	11.1	11.5	11.4	11.3	11.4
Eating and drinking places ($ bil.)	238.4	244.1	247.1	22.2	21.6	21.8	23.6	23.7	23.8	23.8

-- = Not available. 1. In April 1996, 1992 dollars replaced 1987 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	1.8	1.8	1.5	3.0	2.8	3.5	3.4	1.9	2.6	3.0
less U.S.	2.8	1.5	1.3	2.8	2.9	3.6	3.2	1.2	2.2	3.3
Developed Economies	1.7	1.6	0.8	2.7	2.2	3.0	2.8	2.0	2.5	2.4
less U.S.	3.2	1.0	0.1	2.2	2.1	2.8	2.2	1.0	1.8	2.4
United States	-0.9	2.7	2.3	3.5	2.3	3.4	3.9	3.9	3.7	2.4
Canada	-1.9	0.9	2.3	4.7	2.8	1.7	4.0	3.1	3.6	2.9
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	4.0	3.1
European Union	3.7	1.0	-0.5	2.7	2.4	1.6	2.4	2.6	1.9	2.9
Transition Economies	-7.1	-12.3	-7.5	-9.5	-2.2	-2.2	1.0	-2.4	-4.7	-0.6
Eastern Europe	8.8	1.5	-0.5	-1.9	2.2	2.0	1.7	-0.4	-12.0	-1.8
Poland	-6.3	2.0	3.8	4.2	7.1	5.9	6.9	4.8	2.8	5.8
Former Soviet Union	-12.4	-18.0	-11.2	-13.9	-5.1	-5.1	0.5	-3.9	1.1	0.2
Russia	-5.0	-14.5	-8.7	-12.6	-4.1	-4.9	0.8	-4.3	1.7	0.1
Developing Economies	4.5	6.0	6.0	6.3	5.6	6.1	5.7	2.1	3.7	5.5
Asia	6.6	8.5	8.5	9.3	8.6	7.8	6.6	2.1	6.2	6.8
East Asia	8.5	10.2	10.1	10.4	9.2	8.2	7.5	3.8	7.0	7.5
China	9.3	14.2	13.5	12.6	10.5	9.6	8.8	7.8	7.6	8.0
Taiwan	7.5	6.8	6.3	6.6	6.0	5.7	6.8	4.8	5.6	4.6
Korea	8.3	4.7	5.3	8.3	8.9	6.8	5.0	-5.8	7.2	8.4
Southeast Asia	6.8	6.9	7.4	8.1	8.5	7.5	4.9	-6.4	3.5	5.7
Indonesia	8.9	7.2	7.2	7.5	8.2	8.0	4.7	-13.6	2.6	7.4
Malaysia	8.8	7.8	8.4	9.4	9.5	8.0	7.8	-7.4	3.7	6.0
Philippines	-0.2	0.3	2.1	4.4	4.8	5.7	5.1	-0.5	3.0	3.2
Thailand	8.0	8.1	8.3	8.8	9.2	6.4	-0.4	-9.9	3.7	6.2
South Asia	1.3	5.3	4.7	7.0	6.9	6.7	5.2	4.4	6.0	5.3
India	0.5	5.4	4.9	7.5	7.3	7.3	5.5	4.5	6.5	5.4
Pakistan	6.7	4.8	2.9	4.5	4.9	2.1	2.4	3.4	3.0	4.0
Latin America	3.6	2.9	3.8	5.0	0.5	3.5	5.2	2.0	-0.8	3.2
Mexico	4.2	3.6	2.0	4.4	-6.2	5.1	6.7	4.8	3.0	3.8
Caribbean/Central	2.0	3.1	3.5	5.6	0.7	2.3	4.2	2.1	-0.2	3.3
South America	3.6	2.7	4.5	5.0	2.4	3.2	4.9	1.3	-2.0	3.0
Argentina	8.9	8.6	5.7	5.9	-2.7	5.4	8.1	3.9	-3.3	2.9
Brazil	0.5	-1.2	4.5	5.8	3.0	2.9	3.5	0.2	-0.1	3.0
Colombia	2.3	4.0	5.5	5.9	5.3	2.0	3.0	0.6	-5.5	3.5
Venezuela	9.7	6.1	0.3	-2.9	3.4	-1.6	5.9	-0.7	-7.1	1.6
Middle East	1.2	6.1	3.9	0.2	2.9	4.0	4.2	1.5	-0.4	3.2
Israel	7.7	5.6	5.6	6.9	7.0	4.7	2.6	2.0	1.5	2.6
Saudi Arabia	8.4	2.8	-0.6	0.5	0.5	2.4	2.7	1.6	-1.5	1.6
Turkey	0.9	6.0	8.0	-5.5	7.0	7.0	7.6	2.9	-4.3	5.3
Africa	0.9	0.4	1.1	1.6	3.0	4.3	2.8	3.4	3.3	4.7
North Africa	1.0	2.2	0.1	2.8	2.4	5.6	2.3	5.1	4.6	5.4
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	-0.7	1.8	0.9	3.3	3.4	3.1	2.4	2.4	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	2.5	2.4	2.1	1.6	1.4	1.7
Transition Economies	94.1	646.4	602.0	266.9	126.9	40.6	28.2	20.8	40.9	12.4
Developing Economies	36.5	38.9	47.2	51.8	22.2	14.3	9.4	10.4	8.8	7.5
Asia	8.3	7.6	10.7	15.9	12.8	8.3	4.8	8.0	4.7	4.5
Latin America	128.6	151.0	209.0	208.9	35.9	20.8	13.9	10.5	14.6	9.9
Middle East	27.5	25.5	24.7	31.9	36.0	24.7	23.1	23.8	19.7	19.4
Africa	24.6	32.5	30.6	37.2	33.2	25.9	11.1	8.6	8.6	6.6

-- = 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	Sep	Apr	May	Jun	Jul	Aug	Sep
	1990-92=100									
Prices received										
All farm products	112	107	101	99	96	99	98	95	98	97
All crops	127	116	107	100	103	105	100	95	99	97
Food grains	157	128	103	88	96	91	87	77	87	89
Feed grains and hay	146	117	100	86	92	93	91	84	85	82
Cotton	122	112	107	111	94	93	92	90	87	85
Tobacco	105	104	104	103	86	--	--	86	94	99
Oil-bearing crops	128	131	107	93	83	81	80	75	78	84
Fruit and nuts, all	118	108	114	128	109	123	130	133	138	132
Commercial vegetables	111	122	120	111	128	122	111	103	105	107
Potatoes and dry beans	114	90	98	88	103	108	111	121	107	91
Livestock and products	99	98	96	98	90	93	95	94	97	98
Meat animals	87	92	79	73	81	83	84	81	85	83
Dairy products	114	102	118	129	96	98	100	105	115	122
Poultry and eggs	120	113	117	128	104	110	113	113	110	110
Prices paid										
Commodities and services,										
interest, taxes, and wage rates (PPITW)	114	117	115	115	116	116	117	116	117	117
Production items	114	117	112	112	113	113	113	113	113	114
Feed	129	123	105	102	102	102	100	98	99	99
Livestock and poultry	75	94	88	80	92	89	93	92	91	94
Seeds	115	119	122	123	121	121	121	121	121	121
Fertilizer	125	121	112	110	107	106	105	104	103	103
Agricultural chemicals	119	120	122	119	121	116	120	119	123	127
Fuels	102	108	87	89	88	91	92	101	110	113
Supplies and repairs	115	118	119	120	121	121	121	121	121	121
Autos and trucks	118	119	119	118	119	119	119	119	118	118
Farm machinery	125	129	132	134	135	135	135	135	135	135
Building material	115	118	118	119	119	119	120	121	121	121
Farm services	116	117	116	117	116	116	118	117	117	117
Rent	119	121	124	134	130	130	130	130	130	130
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	125	135	135	135	131	131	131
Prod. items, interest, taxes & wage rates (PITW)	114	117	114	113	115	115	115	115	115	116
Ratio, prices received to prices paid (%)*	98	91	88	86	83	85	84	82	84	83
Prices received (1910-14=100)	712	679	643	629	610	628	620	602	625	618
Prices paid, etc. (parity index) (1910-14=100)	1,520	1,558	1,532	1,529	1,551	1,546	1,552	1,546	1,551	1,559
Parity ratio (1910-14=100) (%)*	47	44	42	41	39	41	40	39	40	40

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

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

	Annual[1]			1998	1999					
	1996	1997	1998	Aug	Mar	Apr	May	Jun	Jul	Aug
Crops										
All wheat ($/bu.)	4.30	3.38	2.70	2.38	2.65	2.62	2.53	2.50	2.23	2.43
Rice, rough ($/cwt)	9.96	9.70	8.50	8.95	8.86	8.54	8.16	8.20	8.15	8.06
Corn ($/bu.)	2.71	2.43	1.95	1.89	2.06	2.05	2.00	1.97	1.74	1.78
Sorghum ($/cwt)	4.17	3.95	3.10	3.32	3.17	3.09	2.93	2.87	2.83	2.94
All hay, baled ($/ton)	95.80	100.00	87.00	88.00	78.50	81.90	91.60	81.70	78.40	77.40
Soybeans ($/bu.)	7.35	6.47	5.35	5.43	4.61	4.63	4.51	4.44	4.20	4.25
Cotton, upland (¢/lb.)	69.30	65.20	64.20	66.20	55.30	56.70	56.10	55.50	54.30	53.90
Potatoes ($/cwt)	4.93	5.62	5.24	5.55	5.81	6.14	6.30	6.58	7.34	5.80
Lettuce ($/cwt)[2]	14.70	17.60	15.20	16.30	14.50	20.60	14.00	11.40	12.50	12.90
Tomatoes, fresh ($/cwt)[2]	28.10	31.70	35.00	25.50	24.80	23.40	25.30	33.70	25.40	21.50
Onions ($/cwt)	10.50	12.60	13.80	14.30	11.20	16.90	17.80	17.60	17.10	15.90
Beans, dry edible ($/cwt)	23.50	19.30	19.80	19.60	17.20	16.80	20.10	19.50	19.30	19.10
Apples for fresh use (¢/lb.)	20.80	22.10	17.10	13.80	15.70	14.70	14.00	12.70	12.40	18.40
Pears for fresh use ($/ton)	376.00	276.00	291.00	328.00	331.00	337.00	340.00	356.00	469.00	341.00
Oranges, all uses ($/box)[3]	4.79	4.22	4.29	5.37	6.02	5.82	6.46	8.78	10.10	6.93
Grapefruit, all uses ($/box)[3]	2.30	1.91	1.41	6.01	1.67	2.23	3.66	8.78	10.67	5.36
Livestock										
Cattle, all beef ($/cwt)	58.70	63.10	59.60	57.40	62.40	62.70	62.10	63.70	62.60	62.90
Calves ($/cwt)	58.40	78.90	78.80	76.90	87.30	88.20	87.60	89.00	89.20	89.00
Hogs, all ($/cwt)	51.90	52.90	34.40	35.20	27.80	30.20	36.40	34.20	31.20	36.40
Lambs ($/cwt)	88.20	90.30	72.30	80.10	67.40	67.40	82.80	81.30	77.00	--
All milk, sold to plants ($/cwt)	14.75	13.36	15.41	15.50	15.00	12.60	12.80	13.10	13.70	14.90
Milk, manuf. grade ($/cwt)	13.43	12.17	14.33	14.60	15.10	11.90	11.50	11.90	13.20	14.80
Broilers, live (¢/lb.)	38.10	37.70	39.30	46.80	35.80	34.30	37.80	38.50	38.10	36.20
Eggs, all (¢/doz.)[4]	74.90	70.30	65.50	65.00	67.90	59.60	52.90	55.30	57.30	59.00
Turkeys (¢/lb.)	43.30	39.90	38.00	38.60	37.00	38.70	39.70	41.50	41.80	43.10

-- = 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	Sep	Apr	May	Jun	Jul	Aug	Sep
	1982-84=100									
Consumer Price Index, all items	156.9	160.5	163.0	163.6	166.2	166.2	166.2	166.7	167.1	167.9
CPI, all items less food	157.5	161.1	163.6	164.1	166.7	166.6	166.7	167.2	167.7	168.5
All food	153.3	157.3	160.7	161.1	163.4	163.7	163.6	163.8	164.2	164.6
Food away from home	152.7	157.0	161.1	162.1	164.5	164.6	164.6	165.1	165.6	165.8
Food at home	154.3	158.1	161.1	161.2	163.5	163.9	163.7	163.7	164.1	164.5
Meats[1]	140.2	144.4	141.6	141.6	140.5	141.4	141.8	142.2	142.8	143.9
Beef and veal	134.5	136.8	136.5	136.3	137.9	137.9	139.4	138.9	138.8	140.3
Pork	148.2	155.9	148.5	148.7	141.8	144.7	145.4	146.9	147.6	149.7
Poultry	152.4	156.6	157.1	159.3	157.6	155.7	156.8	157.3	158.5	159.8
Fish and seafood	173.1	177.1	181.7	181.5	185.3	185.9	184.6	184.4	185.2	184.7
Eggs	142.1	140.0	135.4	132.4	129.6	121.4	125.1	119.5	130.8	128.2
Dairy and related products[2]	142.1	145.5	150.8	152.9	156.1	156.2	156.1	155.7	156.5	158.7
Fats and oils[3]	140.5	141.7	146.9	152.4	149.0	147.2	147.5	148.1	148.6	148.5
Fresh fruits	234.4	236.3	246.5	247.6	271.9	280.6	273.4	264.9	266.2	265.8
Fresh vegetables	189.2	194.6	215.8	200.1	206.2	207.7	203.1	206.0	204.8	208.0
Potatoes	180.6	174.2	185.2	189.1	183.3	191.5	194.7	205.0	212.1	204.6
Cereals and bakery products	174.0	177.6	181.1	181.9	184.8	185.1	185.7	186.3	184.9	185.2
Sugar and sweets	143.7	147.8	150.2	150.8	151.7	153.0	152.4	152.4	152.7	153.5
Nonalcoholic beverages[4]	128.6	133.4	133.0	132.2	134.3	134.2	134.3	134.3	134.5	134.2
Apparel										
Footwear	126.6	127.6	128.0	128.6	129.2	127.4	125.4	125.2	123.8	124.7
Tobacco and smoking products	232.8	243.7	274.8	283.5	349.9	345.5	343.2	356.0	350.1	373.8
Alcoholic beverages	158.5	162.8	165.7	166.3	168.8	169.3	169.5	169.9	170.2	170.7

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	Sep	Apr	May	Jun	Jul	Aug	Sep
	1982=100									
All commodities	127.7	127.6	124.4	123.8	123.6	124.7	125.1	125.5	126.8	128.0
Finished goods[1]	131.3	131.8	130.6	130.6	131.9	132.4	132.7	132.9	133.7	134.8
All foods[2]	132.5	132.8	132.4	133.5	130.3	131.6	132.5	131.3	132.7	134.4
Consumer foods	133.6	134.5	134.3	135.4	133.4	134.5	135.3	134.3	135.7	137.0
Fresh fruits and melons	100.8	99.4	90.0	92.3	103.1	115.4	103.2	99.9	96.7	105.4
Fresh and dry vegetables	135.0	123.1	139.5	130.8	132.5	111.5	127.7	117.3	111.1	120.4
Dried and dehydrated fruits	124.2	124.9	124.4	125.5	122.6	120.6	120.5	120.6	120.6	118.8
Canned fruits and juices	137.5	137.6	134.4	133.4	138.0	137.9	138.4	138.6	137.9	138.3
Frozen fruits, juices and ades	123.9	117.2	116.1	117.2	123.6	121.8	122.4	120.4	117.8	120.8
Fresh veg. except potatoes	120.9	121.3	137.9	135.0	144.4	111.3	125.8	103.4	113.7	117.5
Canned vegetables and juices	121.2	120.1	121.5	120.0	120.9	121.0	121.0	121.0	121.0	120.9
Frozen vegetables	125.4	125.8	125.4	125.3	126.7	125.9	126.0	127.3	126.1	126.1
Potatoes	133.9	106.1	122.5	147.5	106.4	131.0	146.8	164.3	151.3	116.4
Eggs for fresh use (1991=100)	105.1	97.1	90.1	88.9	74.8	66.8	70.1	75.2	82.7	75.7
Bakery products	169.8	173.9	175.8	175.9	177.8	177.7	177.7	177.8	177.8	178.0
Meats	109.0	111.6	101.4	100.0	99.8	104.8	107.5	104.2	108.2	109.7
Beef and veal	100.2	102.8	99.5	97.2	103.0	104.3	110.9	107.0	108.6	110.0
Pork	120.9	123.1	96.6	96.2	86.3	100.2	96.7	92.8	104.1	107.4
Processed poultry	119.8	117.4	120.7	129.4	111.8	114.4	115.3	114.7	114.5	115.2
Unprocessed and packaged fish	165.9	178.1	183.0	178.7	185.0	187.1	188.4	189.9	188.4	193.4
Dairy products	130.4	128.1	138.1	145.7	132.1	133.0	135.5	136.4	139.9	143.9
Processed fruits and vegetables	127.6	126.4	125.8	125.2	128.4	127.9	127.8	127.8	127.2	127.5
Shortening and cooking oil	138.5	137.8	143.4	151.0	--	--	--	--	--	--
Soft drinks	134.0	133.2	134.8	134.8	137.4	137.4	136.7	136.6	138.1	138.1
Finished consumer goods less foods	127.6	128.2	126.4	126.3	129.0	129.6	129.9	130.8	131.8	133.4
Alcoholic beverages	132.8	135.1	135.2	134.7	136.0	136.3	137.4	137.9	137.1	137.5
Apparel	125.1	125.7	126.6	126.9	127.1	127.3	126.5	126.4	125.9	126.1
Footwear	141.6	143.7	144.7	144.7	144.6	144.4	144.5	144.5	144.5	144.6
Tobacco products	237.4	248.9	283.4	287.4	363.4	363.5	363.6	363.5	363.8	394.5
Intermediate materials[3]	125.8	125.6	123.0	122.9	121.6	122.2	122.9	123.6	124.7	125.2
Materials for food manufacturing	125.3	123.2	123.1	125.1	118.1	119.6	120.1	118.6	121.1	122.5
Flour	136.8	118.7	109.2	103.3	103.0	104.6	105.3	103.2	105.9	103.9
Refined sugar[4]	123.7	123.6	119.8	120.3	122.0	122.7	122.7	122.9	122.5	121.8
Crude vegetable oils	118.1	116.6	131.1	131.2	97.4	95.1	86.8	77.7	85.1	85.4
Crude materials[5]	113.8	111.1	96.7	92.1	91.1	97.4	97.2	97.4	102.1	106.9
Foodstuffs and feedstuffs	121.5	112.2	103.8	101.3	95.4	99.6	99.6	95.9	100.1	100.5
Fruits and vegetables and nuts[6]	122.5	115.5	117.2	114.9	123.5	122.3	121.6	115.6	111.2	120.0
Grains	151.1	111.2	93.4	76.3	83.1	84.6	82.2	71.7	80.9	75.9
Slaughter livestock	95.2	96.3	82.3	79.0	83.8	87.9	88.6	85.0	88.6	86.7
Slaughter poultry, live	140.5	131.0	141.4	164.1	118.7	136.6	135.6	137.6	126.3	132.6
Plant and animal fibers	129.4	117.0	110.4	117.8	94.4	93.8	89.6	79.4	82.7	80.0
Fluid milk	107.9	97.5	112.6	123.3	93.4	94.8	98.1	101.9	111.7	118.4
Oilseeds	139.4	140.8	114.4	101.0	93.5	93.3	91.5	82.2	91.5	92.4
Leaf tobacco	89.4	--	104.6	105.2	88.5	--	--	95.8	96.7	105.5
Raw cane sugar	118.6	116.8	117.2	115.9	119.6	118.3	119.5	120.6	115.2	114.0

-- = 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	Sep	Apr	May	Jun	Jul	Aug	Sep
Beef, All Fresh Retail Price (cts/lb)	252.4	253.8	253.3	250.0	257	257.7	256.8	258	256.9	258.7
Beef, Choice										
Retail price (cents/lb.)[2]	280.2	279.5	277.1	274.2	283.9	283.2	287.2	289.3	289	289.4
Wholesale value (cents)[3]	158.1	158.2	153.8	153.2	166.1	171.3	178.1	171.5	175.8	177.3
Net farm value (cents)[4]	134.9	137.2	130.8	124.6	141.1	139.6	142.1	138.6	140.4	140.9
Farm-retail spread (cents)	145.3	142.3	146.3	149.6	142.8	143.6	145.1	150.7	148.6	148.5
Wholesale-retail (cents)[5]	122.1	121.3	123.3	121	117.8	111.9	109.1	117.8	113.2	112.1
Farm-wholesale (cents)[6]	23.2	21.0	23.0	28.6	25	31.7	36.0	32.9	35.4	36.4
Farm value-retail price (%)	48	49	47	45	50	49	49	48	49	49
Pork										
Retail price (cents/lb.)[2]	233.7	245.0	242.7	244.7	234.8	239.2	241.2	244.3	246.8	248.1
Wholesale value (cents)[3]	123.2	123.1	97.3	96.2	95.0	105.3	100.5	97	107.7	105.0
Net farm value (cents)[4]	99.4	95.3	61.2	56.4	56.4	68.5	63	58.4	68.8	63.7
Farm-retail spread (cents)	134.3	149.6	181.5	188.3	178.4	170.7	178.2	185.9	178.0	184.4
Wholesale-retail (cents)[5]	110.5	121.9	145.4	148.5	139.8	133.9	140.7	147.3	139.1	143.1
Farm-wholesale (cents)[6]	23.8	27.7	36.1	39.8	38.6	36.8	37.5	38.6	38.9	41.3
Farm value-retail price (%)	43	39	25	23	24	29	26	24	28	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 price and farm value, represents charges for assembling, processing, transporting and distributing. 2. Weighted-average price of retail cuts from pork and Choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs and 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 price 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	25,525	2,073	28,117	1,877	377	25,863	68	0.700	65.06
1997	377	25,490	2,343	28,210	2,136	465	25,609	67	0.700	66.32
1998	465	25,760	2,642	28,867	2,171	393	26,303	68	0.700	61.48
1999	393	26,330	2,805	29,528	2,361	370	26,797	69	0.700	65
2000	370	24,981	3,015	28,366	2,265	365	25,736	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	19,216	826	20,628	1,261	550	18,817	53	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	235	0	240	0	6	234	1	0.83	89
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	236	109	357	6	11	340	1	0.89	74
2000	11	213	114	338	6	10	322	1	0.89	71
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	46,017	3,740	50,753	3,628	937	46,188	124	--	--
2000	937	44,071	3,929	48,937	3,471	880	44,586	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	29,466	4	30,181	4,606	850	24,724	78	0.859	58
2000	850	30,957	4	31,811	4,675	890	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	551	0	558	405	5	148	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	5,216	0	5,520	378	250	4,893	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	35,232	5	36,259	5,389	1,105	29,765	96	--	--
2000	1,105	36,855	4	37,964	5,480	1,195	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	81,249	3,745	87,012	9,017	2,042	75,953	220	--	--
2000	2,042	80,926	3,933	86,901	8,951	2,075	75,876	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	6,883.7	6.2	6,898.3	161.1	954.8	5.0	5,777.4	254.0	68.6
2000	5.0	7,030.0	4.0	7,039.0	170.0	1,010.0	5.0	5,854.0	255.2	65.5

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

Table 12—U.S. Milk Supply & Use[1]

	Production	Farm use	Commercial Farm Marketings	Commercial Beg. stocks	Imports	Total commercial supply	CCC net removals	Commercial Ending stocks	Commercial Disappearance	All milk price[1]	CCC net removals Skim solids basis	CCC net removals Total 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	170.9	0.3	6.4	164.0	14.70	5.9	3.7
2000	165.2	1.2	164.0	6.4	3.5	173.9	0.5	5.7	167.8	13.20	2.2	1.5

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 Aug	1999 Mar	1999 Apr	1999 May	1999 Jun	1999 Jul	1999 Aug
Broilers										
Federally inspected slaughter certified (mil. lb.)	26,336.3	27,270.7	27,862.7	2,265.7	2,606.6	2,523.4	2,480.0	2,590.2	2,467.0	2,495.9
Wholesale price, 12-city (cents/lb.)	61.2	58.8	63.1	72.1	56.8	55.1	60	60.3	59.5	57.6
Price of grower feed ($/ton)[1]	175.1	157.7	128.7	115.6	106.9	107.2	105.0	102.7	95.3	96.5
Broiler-feed price ratio[2]	4.4	4.7	6.3	8.1	6.7	6.4	7.2	7.5	8.0	7.5
Stocks beginning of period (mil. lb.)	560.1	641.3	606.8	569.2	713.9	777.0	800.1	803.3	831.2	929.4
Broiler-type chicks hatched (mil.)	8,078.2	8,321.6	8,495.1	715.6	755.2	734.3	766.2	744.4	750.5	741.3
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,465.6	5,477.9	5,280.6	413.2	431.7	439.3	440.8	455.7	438.2	468.4
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.5	64.9	62.2	63.2	61.7	63.0	65.6	68.9	71.6	73.6
Price of turkey grower feed ($/ton)[1]	165.8	142.7	115.8	101.6	98.7	99.2	95.7	94.3	86.2	90.7
Turkey-feed price ratio[2]	5.3	5.6	6.7	7.6	7.5	7.8	8.3	8.8	9.7	9.5
Stocks beginning of period (mil. lb.)	271.3	328.0	415.1	408.1	375.9	370.7	455.5	494.3	556.1	599
Poults placed in U.S. (mil.)	327.2	321.5	297.8	24.4	25.9	26.8	26.1	25.6	26.8	24.8
Eggs										
Farm production (mil.)	76,532	77,677	79,905	6,694	7,043	6,769	6,925	6,734	6,903	6,961
Average number of layers (mil.)	299	304	313	309	323	321	320	320	320	320
Rate of lay (eggs per layer on farms)	256.2	255.3	255.4	21.6	21.8	21.1	21.6	21.0	21.6	21.7
Cartoned price, New York, grade A large (cents/doz.)[3]	88.2	81.2	75.8	77.7	75.5	60.2	59.2	54.9	68.7	67.4
Price of laying feed ($/ton)[1]	182.5	160.0	137.5	120.4	120.2	129.6	137.4	131.7	116.9	116.8
Egg-feed price ratio[2]	8.6	8.8	9.8	10.8	11.3	9.2	7.7	8.4	9.8	10.1
Stocks, first of month Frozen (mil. doz.)	10.5	7.7	7.4	8.9	8.2	7.0	7.1	7.4	8.6	8.5
Replacement chicks hatched (mil.)	401.6	424.5	438.4	33.4	41.3	42.0	40.6	40.6	34.3	35.5

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	Aug	Mar	Apr	May	Jun	Jul	Aug
Milk--Basic Formula Price ($/cwt)[1]	13.4	12.1	14.2	15.0	11.62	11.81	11.26	11.42	13.59	15.79
Wholesale prices										
Butter, Central States (cents/lb.)[2]	108.2	116.2	177.6	216.6	130.3	103.8	111	147.7	134.7	141.3
Am. cheese, Wis. assembly pt. (cents/lb.)	149.1	132.4	158.1	166.9	134	133.6	124.8	138.1	159.7	188.9
Nonfat dry milk (cents/lb.)[3]	122.2	110.0	106.9	104.6	102.4	102.3	102.3	101.4	101.7	103.8
USDA net removals										
Total (mil. lb.)[4]	86.9	1,090.3	365.6	20.3	32.2	30.8	20.5	22.6	19.8	20.3
Butter (mil. lb.)	0.1	38.4	6.3	0.0	0.4	0.4	0	0	0	0
Am. cheese (mil. lb.)	4.6	11.3	8.2	0.8	0.4	0.3	0.3	0.1	0.2	0.5
Nonfat dry milk (Mil. lb.)	57.2	298.0	326.4	29.4	37.3	48.9	53.8	69.7	55	36.3
Milk										
Milk prod. 20 states (mil. lb.)	131,084	133,314	134,930	11,124	12,212	11,989	12,430	11,587	11,536	11,235
Milk per cow (lb.)	16,726	17,180	17,501	1,443	1,584	1,554	1,609	1,515	1,497	1,489
Number of milk cows (1,000)	7,837	7,760	7,710	7,708	7,708	7,714	7,725	7,730	7,738	7,745
U.S. milk production (mil. lb.)[5]	154,006	156,091	157,441	12,941	14246	13934	14441	13,605	13,427	13363
Stocks, beginning[4]										
Total (mil. lb.)	4,168	4,714	4,907	6,303	7,029	7,396	8,389	9,117	9,303	9,476
Commercial (mil. lb.)	4,099	4,704	4,889	6,566	7001	7371	8362	9086	9264	9432
Government (mil. lb.)	69	10	18	38	28	25	27	31	39	44
Imports, total (mil. lb.)[4]	2,911	2,698	4,588	588	397	360	330	316	458	--
Commercial disappearance (mil. lb.)[4]	154,745	156,120	159917	13,752	14131	13165	13916	13,613	13586	--
Butter										
Production (mil. lb.)	1,174.5	1,151.2	1,081.9	64.3	113.7	106.4	104.7	86.0	75.7	66.8
Stocks, beginning (mil. lb.)	15.8	13.4	20.5	50.7	94.7	108.7	126.3	136.3	121.0	123.2
Commercial disappearance (mil. lb.)	1,179.8	1,108.7	1136.4	87.9	103.1	91.7	96.9	104.8	79.7	--
American cheese										
Production (mil. lb.)	3,280.8	3,285.6	3,325.8	261.3	316.1	318.6	314.6	297.2	303.9	295
Stocks, beginning (mil. lb.)	306.6	379.6	410.3	460.8	403.9	406.0	450.5	495.7	539.1	545
Commercial disappearance (mil. lb.)	3,229.7	3,269.0	3349.7	281.1	317.4	279.5	274.1	257.6	302.1	--
Other cheese										
Production (mil. lb.)	3,936.7	4,044.9	4,176.1	337.3	375.6	354.4	361.6	375.6	349.1	351.5
Stocks, beginning (mil. lb.)	105.3	107.3	70.0	134.7	139.8	146.1	172.9	181	195.8	205.3
Commercial disappearance (mil. lb.)	4,242.9	4,366.6	4450.6	363.7	400	354.7	380.6	384.5	387.2	--
Nonfat dry milk										
Production (mil. lb.)	1,061.8	1,271.6	1,135.4	78.8	128.5	133.7	137.2	120.4	98.9	96
Stocks, beginning (mil. lb.)	70.6	71.1	103.3	115.3	107.6	122.7	136.5	163.7	158.3	141.1
Commercial disappearance (mil. lb.)	1,009.5	894.1	867.5	70.4	76.7	71.6	57	56.5	62.2	--
Frozen dessert										
Production (mil. gal.)[6]	1,240.9	1,290.0	1,325.9	121.8	111.0	117.6	119.8	136.0	133.7	126.5

	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	39,800
Milk per cow (lb.)	16,433	16,871	17,192	4,268	4,451	4,210	4,261	4,437	4,587	4,342
No. of milk cows (1,000)	9,372	9,252	9,158	9,176	9,171	9,149	9,137	9,136	9,151	9,166
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]	Area: Planted	Area: Harvested	Yield	Production	Total supply[4]	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price[5]
	Mil. Acres			Bu./acre	Mil. bu.							$/bu.
Wheat												
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	54.3	42.7	2,318	3,369	250	1,007	1,125	2,382	987	2.45-2.65
		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	5,945.0	212.3	245.0	--	6/ 113.0	82.0	195.0	50.0	5.75-6.25
		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	11,089	5,486	1,822	1,985	9,293	1,796	1.95
1999/2000	--	77.6	70.9	133.5	9,467	11,273	5,500	1,880	1,925	9,305	1,968	1.65-2.05
		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	264	45	195	504	65	1.70
1999/2000	--	9.3	8.5	68.3	580	645	325	55	200	580	65	1.40-1.80
		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	59.5	284	461	125	172	30	327	134	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	60.0	148	329	165	96	2	263	66	1.00-1.10
		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	158	1,597	870	2,626	200	6.47
1998/99*	--	72.4	70.8	38.9	2,757	2,961	201	1,590	805	2,596	365	5.00
1999/2000	--	74.1	72.8	37.0	2,696	3,049	154	1,630	880	2,664	385	4.75-5.25
								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	19,724	--	15,264	3,077	18,341	1,382	25.84
1998/99*	--	--	--	--	18,105	19,565	--	15,550	2,425	17,975	1,590	19.90
1999/2000	--	--	--	--	18,340	19,995	--	15,900	2,000	17,900	2,095	16.75-19.25
								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	--	--	--	--	38,171	38,437	--	28,889	9,330	38,219	218	185.5
1998/99*	--	--	--	--	37,852	38,170	--	30,620	7,300	37,920	250	138.3
1999/2000	--	--	--	--	38,700	39,000	--	31,000	7,750	38,750	250	145-170

See footnotes at end of table, next page

Table 17—Supply & Utilization (continued)

	Area: Set-aside[3]	Area: Planted	Area: Harvested	Yield	Production	Total supply[4]	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price[5]
	Mil. Acres			Lb./acre	Mil. Bales							¢/lb.
Cotton[9]												
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	60.6
1999/2000*	--	14.6	13.4	588	16.4	20.4	--	10.2	5.5	15.7	4.7	--

-- = Not available or not applicable. *October 8, 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] 1996/97	1997/98	1998/99	1998 Aug	1999 Mar	Apr	May	Jun	Jul	Aug
Wheat, no. 1 HRW, Kansas City ($/bu.)[2]	4.88	3.71	3.08	2.74	3.02	2.94	2.89	2.93	2.68	2.85
Wheat, DNS, Minneapolis ($/bu.)[3]	4.96	4.31	3.83	3.58	3.79	3.65	3.61	3.73	3.68	3.58
Rice, S.W. La. ($/cwt)[4]	20.34	18.92	16.79	18.35	16.52	16.13	15.56	15.13	14.91	14.68
Corn, no. 2 yellow, 30-day, Chicago ($/bu.)[5]	2.84	2.56	2.06	1.97	2.20	2.13	2.16	2.11	1.78	1.84
Sorghum, no. 2 yellow, Kansas City ($/cwt)[5]	4.54	4.11	3.29	3.27	3.48	3.37	3.35	3.32	2.92	3.24
Barley, feed, Duluth ($/bu.)	2.32	1.90	--	--	--	--	--	--	--	--
Barley, malting Minneapolis ($/bu.)	3.18	2.50	--	--	--	--	--	--	--	--
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.)[6]	71.60	67.79	--	71.87	58.17	57.01	55.54	53.74	49.23	49.72
Northern Europe prices cotton index (¢/lb.)[7]	78.66	72.11	--	68.13	56.74	57.86	59.85	58.68	54.56	50.98
U.S. M 1-3/32 in. (¢/lb.)[8]	82.86	77.98	--	76.94	--	--	--	--	--	58.63
Soybeans, no. 1 yellow, 30-day Chicago ($/bu)	7.38	6.51	--	5.31	4.69	4.70	4.59	4.45	4.11	4.45
Soybean oil, crude, Decatur (¢/lb.)	22.50	25.84	19.90	23.99	19.54	19.54	17.85	16.50	15.29	16.50
Soybean meal, 48% protein, Decatur ($/ton)	270.90	185.54	138.50	146.25	133.00	134.50	133.20	139.10	132.73	141.69

-- = 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	17,234	18,009
Per capita consumpt. (lb.)[2]	23.6	21.4	19.1	24.4	26.0	25.0	24.1	25.0	26.8	--
Noncitrus[3]										
Production (1,000 tons)	16,345	15,640	15,740	17,124	16,563	17,341	16,358	16,103	18,382	16,035
Per capita consumpt. (lb.)[2]	72.8	70.4	70.6	73.8	73.9	75.6	73.7	74.0	76.0	--

		1998				1999				
	Sep	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Grower prices										
Apples (¢/pound)[4]	22.6	15.8	15.0	15.3	14.1	13.3	12.7	12.4	18.4	23.2
Pears (¢/pound)[4]	18.60	18.65	18.10	16.55	16.85	17.00	17.80	23.45	17.05	19.40
Oranges ($/box)[5]	4.97	5.15	5.60	6.02	5.82	6.46	8.78	10.10	11.48	7.98
Grapefruit ($/box)[5]	11.09	1.80	1.60	1.67	2.23	3.66	8.78	10.67	7.45	8.18
Stocks, ending										
Fresh apples (mil. lb.)	3,457	4,169	3,407	2,607	1,858	1,252	732	361	103	2,828.8
Fresh pears (mil. lb.)	534	237	177	120	69	39	10	12	130	551.6
Frozen fruits (mil. lb.)	1,050	1,103	1,022	911	789	801	877	1,101	1,183	1,153.3
Frozen conc.orange juice										
(mil. single-strength gallons)	736	825	907	894	1,035	878	817	744	661	599.2

-- = 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

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Production[1]										
Total vegetables (1,000 cwt)	543,435	562,938	565,754	689,070	688,824	782,505	747,988	762,952	760,951	732,259
Fresh (1,000 cwt)[2,4]	254,418	254,039	242,733	389,597	387,330	412,880	393,398	409,317	433,878	419,779
Processed (tons)[3,4]	14,450,860	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]	714,992	749,151	746,832	776,357	750,799	782,340	777,870	776,677	808,678	--
Potatoes (1,000 cwt)	370,444	402,110	417,622	425,367	428,693	467,054	443,606	499,254	467,091	477,754
Sweet potatoes (1,000 cwt)	11,358	12,594	11,203	12,005	11,027	13,380	12,821	13,216	13,327	12,382
Dry edible beans (1,000 cwt)	23,729	32,379	33,765	22,615	21,862	28,950	30,689	27,912	29,370	30,828

	1998	1999				1999				
	Sep	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Shipments (1,000 cwt)										
Fresh	16,763	19,681	19,644	26,297	25,769	29,042	36,831	21,355	17,816	20,143
Iceberg lettuce	3,497	3,068	2,854	3,721	3,018	3,594	4,370	3,287	3,079	3,952
Tomatoes, all	2,721	3,496	3,373	4,588	3,874	3,596	4,053	2,766	2,478	3,599
Dry-bulb onions	3,423	2,896	2,845	3,825	3,630	3,626	3,759	3,029	3,124	4,461
Others[6]	7,122	10,221	10,572	14,163	15,247	18,226	24,649	12,273	9,135	8,131
Potatoes, all	11,739	12,819	11,691	18,522	17,737	16,160	13,579	9,825	9,217	12,148
Sweet potatoes	263	263	227	462	208	184	196	155	172	321

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		1997		1998			1999	
	1996	1997	1998	IV	I	II	III	IV	I	II
Sugar										
Production[1]	7,268	7,418	7,891	4,088	2,376	824	733	3,959	2,636	1,031
Deliveries[1]	9,633	9,755	9,851	2,469	2,261	2,465	2,616	2,508	2,271	2,594
Stocks, ending[1]	3,195	3,377	3,423	3,377	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	134.89	143.58	117.73	98.57	97.83	94.37	90.41

		Annual		1998			1999			
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
Tobacco										
Avg. price to grower[3]										
Flue-cured ($/lb.)	1.83	1.73	1.75	1.87	--	--	--	--	1.50	1.65
Burley ($/lb.)	1.92	1.86	1.91		--	--	--	--	--	--
Domestic taxable removals										
Cigarettes (bil.)	486.0	471.4	--	40.5	--	--	--	--	--	--
Large cigars (mil.)[4]	3,166.4	3,552.9	--	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
Wheat										
Area (hectares)	231.4	222.5	222.9	222.0	214.5	219.2	230.3	227.9	224.5	217.7
Production (metric tons)	588.0	542.9	562.4	558.8	524.0	538.5	582.8	609.3	587.9	577.7
Exports (metric tons [1]	101.1	111.2	113.0	101.5	100.8	98.8	101.5	100.9	100.2	101.2
Consumption (metric tons) [2]	561.9	555.5	550.3	561.7	547.3	550.1	575.6	584.0	590.9	585.8
Ending stocks (metric tons) [3]	145.0	132.5	144.5	141.6	118.3	106.7	113.8	139.2	136.2	128.1
Coarse grains										
Area (hectares)	316.4	321.9	323.5	316.8	322.3	313.3	321.9	311.0	308.4	303.1
Production (metric tons)	828.8	810.4	871.5	798.8	871.2	802.9	908.3	882.9	889.6	870.0
Exports (metric tons [1]	88.8	95.6	92.2	85.0	97.5	87.1	94.4	85.7	95.7	93.2
Consumption (metric tons) [2]	817.2	809.8	843.6	838.5	857.4	842.4	877.4	875.4	872.0	871.7
Ending stocks (metric tons) [3]	134.8	135.4	163.2	123.5	137.4	97.9	128.7	136.2	153.8	152.1
Rice, milled										
Area (hectares)	146.6	147.4	180.4	144.9	147.4	148.1	149.8	151.2	152.2	153.8
Production (metric tons)	352.1	354.7	355.7	355.4	364.5	371.4	380.4	386.2	387.5	393.5
Exports (metric tons [1]	12.2	14.3	14.9	16.3	20.9	19.7	18.8	27.4	23.3	23.2
Consumption (metric tons) [2]	347.4	356.7	357.7	358.1	366.6	371.4	379.6	383.6	389.2	394.6
Ending stocks (metric tons) [3]	59.1	57.1	55.1	52.4	50.4	50.4	51.2	53.7	52.0	51.0
Total grains										
Area (hectares)	694.4	691.8	726.8	683.7	684.2	680.6	702.0	690.1	685.1	674.6
Production (metric tons)	1,768.9	1,708.0	1,789.6	1,713.0	1,759.7	1,712.8	1,871.5	1,878.4	1,865.0	1,841.2
Exports (metric tons [1]	202.1	221.1	220.1	202.8	219.2	205.6	214.7	214.0	219.2	217.6
Consumption (metric tons) [2]	1,726.5	1,722.0	1,751.6	1,758.3	1,771.3	1,763.9	1,832.6	1,843.0	1,852.1	1,852.1
Ending stocks (metric tons) [3]	338.9	325.0	362.8	317.5	306.1	255.0	293.7	329.1	342.0	331.2
Oilseeds										
Crush (metric tons)	176.7	185.1	184.4	190.1	208.1	217.4	219.1	227.4	237.0	245.2
Production (metric tons)	215.7	224.3	227.5	229.4	261.9	258.4	262.0	286.7	293.0	295.5
Exports (metric tons)	33.4	37.6	38.2	38.7	44.1	44.4	49.5	53.8	55.3	56.3
Ending stocks (metric tons)	23.4	21.9	23.6	20.3	27.2	22.2	17.1	24.6	28.1	27.1
Meals										
Production (metric tons)	119.3	125.2	125.2	131.7	142.1	147.2	149.6	155.1	162.5	167.6
Exports (metric tons)	40.7	42.2	40.8	44.9	46.7	49.7	50.7	52.3	54.8	56.2
Oils										
Production (metric tons)	58.1	60.6	61.1	63.7	69.6	73.0	75.9	76.3	81.0	85.2
Exports (metric tons)	20.5	21.3	21.3	24.3	27.1	26.0	29.0	29.9	30.9	32.2
Cotton										
Area (hectares)	33.2	34.8	32.6	30.6	32.2	35.9	33.8	33.8	32.9	32.9
Production (bales)	87.1	95.7	82.5	77.1	85.9	93.0	89.6	91.7	84.5	86.0
Exports (bales)	29.6	28.5	25.5	26.8	28.4	27.8	26.8	26.6	23.4	25.2
Consumption (bales)	85.5	85.7	85.5	85.3	85.5	86.9	89.1	88.5	84.9	87.1
Ending stocks (bales)	27.8	37.6	35.4	27.6	29.9	35.7	38.2	40.8	41.8	40.9
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Red meat [4]										
Production (metric tons)	111.9	117.3	117.3	119.3	124.6	130.2	125.0	128.5	132.9	133.8
Consumption (metric tons)	118.3	115.7	115.7	118.3	123.6	128.8	122.5	126.1	130.2	131.6
Exports (metric tons) [1]	6.5	7.4	7.4	7.4	8.1	8.2	8.5	9.0	8.8	8.9
Poultry [4]										
Production (metric tons)	39.6	38.0	38.0	40.5	43.2	46.7	49.5	51.8	53.1	55.2
Consumption (metric tons)	38.4	37.0	37.0	39.4	42.0	45.3	47.7	49.9	51.1	53.0
Exports (metric tons) [1]	2.8	2.4	2.4	2.8	3.6	4.6	5.2	5.7	5.7	5.5
Dairy										
Milk production (metric tons) [5]	377.6	378.4	378.4	377.6	378.4	380.8	379.9	381.5	384.9	387.5

-- = 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	Sep	Apr	May	Jun	Jul	Aug	Sep
Export commodities										
Wheat, f.o.b. vessel, Gulf ports ($/bu.)	5.63	4.35	3.44	2.94	3.10	3.05	3.01	2.75	2.99	3.08
Corn, f.o.b. vessel, Gulf ports ($/bu.)	4.17	2.98	2.59	2.19	2.38	2.36	2.36	2.12	2.20	2.21
Grain sorghum, f.o.b. vessel, Gulf ports ($/bu.)	3.90	2.89	2.54	2.16	2.28	2.23	2.22	1.94	2.12	2.02
Soybeans, f.o.b. vessel, Gulf ports ($/bu.)	7.88	7.94	6.37	5.62	5.00	4.88	4.87	4.61	5.00	5.18
Soybean oil, Decatur (¢/lb.)	23.75	23.33	25.78	25.14	18.78	17.85	16.50	15.29	16.50	16.79
Soybean meal, Decatur, ($/ton)	246.67	266.70	162.74	135.83	134.50	133.20	139.07	132.73	141.69	150.64
Cotton, 7-market avg. spot (¢/lb.)	77.93	69.62	67.04	71.77	57.01	55.55	53.74	49.23	49.72	48.39
Tobacco, avg. price at auction (¢/lb.)	183.20	182.74	179.77	179.06	150.54	--	--	149.96	163.99	172.04
Rice, f.o.b., mill, Houston ($/cwt)	19.64	20.88	18.95	18.75	17.75	17.31	17.05	17.00	16.48	16.00
Inedible tallow, Chicago (¢/lb.)	20.13	20.75	17.67	16.22	11.38	10.40	11.49	11.50	11.69	14.38
Import commodities										
Coffee, N.Y. spot ($/lb.)	1.29	2.05	1.39	1.13	1.01	1.14	1.09	0.97	0.93	0.86
Rubber, N.Y. spot (¢/lb.)	72.88	55.40	40.57	38.66	34.98	35.75	34.64	33.60	33.63	34.32
Cocoa beans, N.Y. ($/lb.)	0.62	0.69	0.72	0.72	0.48	0.43	0.48	0.46	0.43	0.43

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 F	2000 P	Aug	Mar	Apr	May	Jun	Jul	Aug
	$ million									
Exports										
Agricultural	53,730	49,000	50,000	3,704	4,082	3,850	3,649	3,806	3,718	3,949
Nonagricultural	584,077	--	--	45,692	52,091	49,339	48,401	49,665	45,341	49,348
Total [1]	637,807	--	--	49,396	56,173	53,189	52,050	53,471	49,059	53,297
Imports										
Agricultural	37,007	37,500	38,000	2,857	3,458	3,380	3,225	3,285	2,899	2,990
Nonagricultural	859,737	--	--	72,688	79,776	76,473	76,927	84,204	83,429	85,723
Total [2]	896,744	--	--	75,545	83,234	79,853	80,152	87,489	86,328	88,713
Trade Balance										
Agricultural	16,723	11,500	12,000	847	624	470	424	521	819	959
Nonagricultural	-275,660	--	--	-26,996	-27,685	-27,134	-28,526	-34,539	-38,088	-36,375
Total	-258,937	--	--	-26,149	-27,061	-26,664	-28,102	-34,018	-37,269	-35,416

F = Forecast. 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			Aug		Fiscal Year			Aug	
	1998	1999 F	2000 P	1998	1999	1998	1999 F	2000 P	1998	1999
	1,000 units					$ million				
EXPORTS										
Animals, live	--	--	--	--	--	538	--	--	42	38
Meats and preps., excl. poultry (mt)[1]	2,064	1,600	1,700	163	185	4,507	4,100	4,400	348	403
Dairy products	--	--	--	--	--	925	800	900	63	73
Poultry meats (mt)	2,663	2,400	2,400	221	214	2,347	1,700	1,800	191	156
Fats, oils, and greases (mt)	1,365	1,400	1,400	142	99	655	--	--	63	37
Hides and skins, incl. furskins	--	--	--	--	--	1,358	1,100	1,100	96	99
Cattle hides, whole (no.)	18,992	--	--	1,556	1,674	969	--	--	74	80
Mink pelts (no.)	2,990	--	--	85	216	83	--	--	3	5
Grains and feeds (mt)[2]	87,289	--	--	7,853	9,329	13,961	14,400	14,400	1,119	1,196
Wheat (mt)[3]	25,791	28,500	31,000	2,630	2,898	3,759	3,800	4,200	335	355
Wheat flour (mt)	465	900	800	40	72	117	--	--	10	12
Rice (mt)	3,310	3,200	3,300	216	168	1,132	1,000	1,000	72	56
Feed grains, incl. products (mt)[4]	44,564	55,300	54,400	3,838	5,195	5,187	5,500	5,200	398	489
Feeds and fodders (mt)	11,704	11,800	11,900	970	867	2,421	2,300	2,300	184	170
Other grain products (mt)	1,455	--	--	160	129	1,345	--	--	120	113
Fruits, nuts, and preps. (mt)	3,633	--	--	277	268	3,977	4,400	4,800	330	305
Fruit juices, incl. froz. (1,000 hectoliters)	10,658	--	--	826	1,152	653	--	--	54	68
Vegetables and preps.	--	--	--	--	--	4,168	2,900	2,700	300	319
Tobacco, unmanufactured (mt)	208	200	200	13	8	1,448	1,400	1,400	97	64
Cotton, excl. linters (mt)[5]	1,552	900	1,300	88	55	2,517	1,400	1,700	136	74
Seeds (mt)	816	--	--	18	41	827	800	900	38	39
Sugar, cane or beat (mt)	123	--	--	7	11	48	--	--	3	4
Oilseeds and products (mt)	36,074	32,300	36,700	1,337	2,122	10,984	8,200	8,300	450	671
Oilseeds (mt)	--	--	--	--	--	6,818	--	--	215	499
Soybeans (mt)	23,394	21,700	24,900	723	1,503	6,117	4,500	4,700	171	285
Protein meal (mt)	8,666	--	--	325	383	1,975	--	--	63	61
Vegetable oils (mt)	3,049	--	--	239	164	2,191	--	--	172	111
Essential oils (mt)	46	--	--	3	4	533	--	--	44	43
Other	--	--	--	--	--	4,284	--	--	330	358
Total	--	--	--	--	--	53,730	49,000	50,000	3,704	3,949
IMPORTS										
Animals, live	--	--	--	--	--	1,670	1,500	1,500	134	113
Meats and preps., excl. poultry (mt)	1,230	1,300	1,300	109	121	2,718	3,000	3,100	234	274
Beef and veal (mt)	857	--	--	75	84	1,761	--	--	153	189
Pork (mt)	271	--	--	25	29	686	--	--	61	64
Dairy products	--	--	--	--	--	1,368	1,600	1,500	130	132
Poultry and products	--	--	--	--	--	207	--	--	18	18
Fats, oils, and greases (mt)	80	--	--	7	12	59	--	--	5	8
Hides and skins, incl. furskins (mt)	--	--	--	--	--	184	--	--	9	9
Wool, unmanufactured (mt)	45	--	--	2	2	151	--	--	7	4
Grains and feeds	--	--	--	--	--	2,919	2,900	3,000	239	260
Fruits, nuts, and preps., excl. juices (mt)[6]	7,581	8,000	8,100	560	591	3,982	5,400	5,400	296	319
Bananas and plantains (mt)	4,175	4,300	4,300	382	402	1,214	1,200	1,200	115	107
Fruit juices (1,000 hectoliters)	26,577	30,000	30,000	2,026	2,843	669	--	--	52	63
Vegetables and preps.	--	--	--	--	--	4,249	4,500	4,500	266	291
Tobacco, unmanufactured (mt)	241	200	200	23	18	822	800	800	76	55
Cotton, unmanufactured (mt)	10	--	--	0	9	11	--	--	0	9
Seeds (mt)	257	--	--	12	27	422	--	--	24	25
Nursery stock and cut flowers	--	--	--	--	--	1,082	1,000	1,100	86	100
Sugar, cane or beet (mt)	2,170	1,800	NA	168	143	758	--	--	71	56
Oilseeds and products (mt)	4,314	3,900	4,000	265	324	2,243	2,000	2,100	155	162
Oilseeds (mt)	1,028	--	--	35	102	371	--	--	14	23
Protein meal (mt)	1,277	--	--	92	72	188	--	--	13	10
Vegetable oils (mt)	2,010	--	--	139	150	1,684	--	--	129	129
Beverages, excl. fruit juices (1,000 hectoliters)	--	--	--	--	--	3,705	--	--	324	391
Coffee, tea, cocoa, spices (mt)	2,369	--	--	186	202	6,056	--	--	418	403
Coffee, incl. products (mt)	1,155	1,300	1,300	93	107	3,587	2,900	3,000	232	226
Cocoa beans and products (mt)	875	900	900	62	62	1,701	1,600	1,600	123	107
Rubber and allied gums (mt)	1,162	1,200	1,200	103	115	1,027	800	800	83	69
Other	--	--	--	--	--	2,703	--	--	228	228
Total	--	--	--	--	--	37,007	37,500	38,000	2,857	2,990

F=Forecast. P=Projection. -- = Not available. Projections are fiscal years (October 1 through September 30) and are from Outlook for U.S. Agricultural Exports. 1997 and 1998 data are from *Foreign Agricultural Trade of the U.S*. 1. Projection includes beef, pork, and variety meat. 2. Projection includes pulses. 3. Value projection includes wheat flour. 4. Projection excludes grain products. 5. Projection includes linters. 6. Value projection includes juice.

Information Contact: Mary Fant (202) 694-5272

Table 28—U.S. Agricultural Exports by Region

	Fiscal year			1998	1999					
	1997	1998	1999 F	Aug	Mar	Apr	May	Jun	Jul	Aug
	$ millions									
Region & country										
WESTERN EUROPE	9,617	8,859	7,500	458	615	487	526	453	418	592
European Union[1]	8,997	8,522	7,100	441	590	464	498	414	382	404
Belgium-Luxembourg	715	666	--	34	47	45	62	35	32	38
France	548	536	--	25	30	24	22	20	24	22
Germany	1,376	1,294	--	80	100	63	80	49	56	57
Italy	792	729	--	26	61	32	43	35	19	36
Netherlands	2,011	1,792	--	60	138	131	121	94	70	74
United Kingdom	1,289	1,300	--	95	91	77	88	89	90	84
Portugal	243	186	--	8	12	9	11	4	5	10
Spain, incl. Canary Islands	1,087	1,132	--	56	48	25	31	45	37	37
Other Western Europe	620	336	400	17	25	23	29	39	36	188
Switzerland	506	236	--	9	19	16	23	21	29	171
EASTERN EUROPE	317	320	200	16	16	14	13	17	15	9
Poland	164	139	--	5	4	9	6	5	6	5
Former Yugoslavia	72	97	--	6	1	1	1	4	4	2
Romania	37	31	--	3	6	1	2	1	0	0
NEWLY INDEPENDENT STATES	1,593	1,456	1,200	109	55	72	86	85	121	102
Russia	1,281	1,103	900	70	37	20	68	57	61	71
ASIA[2]	26,436	21,992	17,900	1,526	1,713	1,680	1,446	1,659	1,537	1,648
West Asia (Mideast)	2,562	2,286	2,000	164	159	144	130	160	196	162
Turkey	742	658	500	72	21	35	36	50	46	19
Iraq	50	131	--	--	1	0	--	0	‘	--
Israel, incl. Gaza and W. Bank	543	389	--	24	40	34	26	37	51	24
Saudi Arabia	630	535	500	32	39	34	26	46	31	43
South Asia	728	626	500	79	30	30	11	32	29	32
Bangladesh	123	114	--	6	6	3	2	9	8	15
India	152	163	--	31	17	12	5	18	12	8
Pakistan	418	275	--	30	4	4	4	3	4	2
China	1,774	1,514	900	68	35	52	42	34	35	73
Japan	10,713	9,469	8,800	628	820	794	695	730	636	698
Southeast Asia	3,136	2,288	2,200	181	176	163	169	180	168	195
Indonesia	768	529	500	50	39	35	40	59	33	41
Philippines	898	751	700	73	50	65	59	68	61	69
Other East Asia	7,523	5,808	5,500	406	492	497	398	524	473	487
Korea, Rep.	3,293	2,258	2,300	165	231	219	161	225	228	220
Hong Kong	1,640	1,568	1,300	100	101	87	87	104	88	97
Taiwan	2,588	1,975	1,900	141	161	191	150	194	156	169
AFRICA	2,265	2,174	2,100	189	184	161	142	180	178	171
North Africa	1,480	1,475	1,400	125	132	120	96	98	123	114
Morocco	166	139	--	13	16	19	10	9	16	17
Algeria	307	281	--	25	13	13	8	12	22	30
Egypt	928	939	1,000	84	92	78	70	73	79	61
Sub-Sahara	785	699	700	64	52	40	46	82	55	56
Nigeria	106	140	--	13	5	12	21	19	9	17
S. Africa	239	193	--	15	14	7	11	18	17	13
LATIN AMERICA and CARIBBEAN	9,984	11,362	10,600	822	869	794	753	743	805	799
Brazil	461	566	400	28	14	13	17	16	22	19
Caribbean Islands	1,473	1,487	--	114	120	129	115	110	109	113
Central America	1,029	1,137	--	81	96	90	79	83	79	87
Colombia	552	606	--	41	35	43	37	48	34	32
Mexico	5,077	5,956	5,600	460	512	427	421	393	457	449
Peru	178	314	--	29	13	30	25	30	31	23
Venezuela	552	516	500	32	52	33	28	33	29	33
CANADA	6,620	7,022	6,900	534	597	587	616	615	586	556
OCEANIA	534	545	500	49	34	42	39	43	37	50
TOTAL	57,365	53,730	49,000	3,704	4,082	3,850	3,649	3,806	3,718	3,949

F = Forecast. -- = Not available. Based on fiscal year beginning October 1 and ending September 30. 1. Austria, Finland, and Sweden are included in the European Union. 2. Asia forecasts exclude West Asia (Mideast). NOTE: Adjusted for 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	Jul	Feb	Mar	Apr	May	Jun	Jul
	$ million									
Commodity sales[1]	199,138	207,611	196,761	15,650	12,634	14,941	12,921	13,034	14,322	14,353
Livestock and products	92,956	96,535	94,539	8,154	6,991	8,712	6,820	7,209	8,090	8,061
Meat animals	44,154	49,682	43,604	3,329	3,371	4,612	3,107	3,469	4,292	3,439
Dairy products	22,785	20,940	24,312	1,864	1,957	2,148	1,772	1,857	1,788	1,836
Poultry and eggs	22,432	22,234	22,806	1,982	1,495	1,773	1,780	1,716	1,807	1,808
Other	3,585	3,679	3,816	979	168	179	161	167	203	978
Crops	106,182	111,076	102,222	7,497	5,643	6,229	6,101	5,825	6,232	6,292
Food grains	10,719	10,137	8,734	1,543	403	516	414	340	806	1,182
Feed crops	27,185	27,101	22,927	1,471	1,360	1,360	922	1,068	1,489	1,128
Cotton (lint and seed)	6,983	6,346	6,013	113	382	294	111	110	90	54
Tobacco	2,795	2,874	2,989	66	136	19	5	0	0	10
Oil-bearing crops	16,344	19,673	17,198	858	915	753	696	605	693	521
Vegetables and melons	14,439	14,961	15,337	1,452	879	1,182	1,337	1,573	1,424	1,440
Fruits and tree nuts	11,928	13,074	11,727	1,015	527	596	666	657	807	980
Other	15,789	16,909	17,297	977	1,042	1,508	1,949	1,472	923	977
Government payments	7,340	7,495	12,220	157	814	664	566	228	2,365	677
Total	206,478	215,107	208,981	15,807	13,448	15,604	13,487	13,261	16,688	15,030

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]			
	1997	1998	Jun 1999	Jul 1999	1997	1998	Jun 1999	Jul 1999	1997	1998	Jun 1999	Jul 1999
					$ million [2]							
NORTH ATLANTIC												
Maine	276	282	21	23	213	224	6	15	489	506	27	37
New Hampshire	68	69	6	6	84	82	3	5	153	151	9	11
Vermont	414	472	37	31	85	84	3	14	500	557	40	44
Massachusetts	114	112	9	11	417	395	24	27	531	507	33	38
Rhode Island	9	9	1	1	54	56	3	5	63	65	3	6
Connecticut	223	228	17	22	278	281	12	15	501	509	29	37
New York	1,828	2,092	151	172	1,007	1,054	65	117	2,836	3,146	216	289
New Jersey	168	178	11	35	626	650	61	72	794	828	72	107
Pennsylvania	2,808	2,914	216	234	1,324	1,261	78	80	4,132	4,175	294	313
NORTH CENTRAL												
Ohio	1,875	1,848	148	155	3,361	3,124	181	198	5,237	4,973	329	353
Indiana	1,928	1,639	126	133	3,838	3,245	147	176	5,766	4,885	273	309
Illinois	1,928	1,575	127	112	7,055	6,167	403	350	8,984	7,742	530	462
Michigan	1,365	1,323	105	117	2,234	2,158	108	139	3,598	3,480	213	256
Wisconsin	4,066	4,492	334	371	1,721	1,701	77	78	5,787	6,193	411	449
Minnesota	3,992	3,755	300	262	4,006	3,925	281	167	7,998	7,680	580	429
Iowa	5,613	4,778	463	426	7,331	6,217	346	237	12,944	10,994	809	663
Missouri	2,771	2,420	193	182	2,631	2,262	113	135	5,402	4,682	306	318
North Dakota	598	549	53	45	2,668	2,455	127	133	3,267	3,004	180	178
South Dakota	1,781	1,557	158	130	2,401	1,951	90	74	4,182	3,508	248	205
Nebraska	5,508	5,124	584	457	4,295	3,725	178	152	9,803	8,848	763	608
Kansas	4,936	4,537	472	361	3,609	3,247	139	383	8,544	7,784	611	743
SOUTHERN												
Delaware	579	609	51	51	176	164	15	20	754	774	66	71
Maryland	928	949	75	88	607	571	40	57	1,535	1,520	115	145
Virginia	1,542	1,561	121	143	864	768	39	60	2,406	2,328	160	202
West Virginia	328	336	26	31	69	69	7	7	397	405	32	38
North Carolina	4,723	3,917	291	283	3,507	3,247	162	144	8,230	7,164	453	427
South Carolina	802	763	55	62	885	748	52	51	1,687	1,511	107	113
Georgia	3,402	3,408	269	266	2,350	2,047	140	83	5,752	5,454	409	349
Florida	1,400	1,407	113	168	5,116	5,355	374	250	6,516	6,762	487	418
Kentucky	1,972	2,134	93	435	1,571	1,787	51	42	3,543	3,920	144	477
Tennessee	1,028	1,038	73	93	1,245	1,177	50	44	2,273	2,216	123	137
Alabama	2,428	2,587	185	201	788	696	41	29	3,216	3,283	227	230
Mississippi	2,004	2,169	171	169	1,476	1,285	34	34	3,480	3,454	205	202
Arkansas	3,346	3,250	287	263	2,379	2,172	129	77	5,724	5,422	416	341
Louisiana	659	645	57	61	1,510	1,245	25	27	2,168	1,891	82	88
Oklahoma	3,036	2,838	233	244	1,138	1,062	162	153	4,174	3,900	395	397
Texas	8,147	8,220	809	700	5,060	4,986	311	353	13,208	13,206	1,120	1,053
WESTERN												
Montana	965	865	73	73	1,058	934	39	45	2,023	1,799	112	118
Idaho	1,405	1,585	147	143	1,878	1,735	91	91	3,283	3,320	239	234
Wyoming	686	681	73	25	191	170	4	8	876	850	77	33
Colorado	2,875	2,857	278	211	1,303	1,453	92	121	4,177	4,310	370	332
New Mexico	1,366	1,437	124	112	551	513	65	63	1,917	1,950	189	175
Arizona	906	943	85	83	1,276	1,425	110	67	2,183	2,368	195	150
Utah	706	736	57	65	256	245	14	20	962	981	71	85
Nevada	187	194	15	17	136	143	11	16	322	337	25	32
Washington	1,622	1,730	136	142	3,747	3,424	256	267	5,370	5,155	392	409
Oregon	803	762	67	70	2,427	2,330	169	198	3,229	3,092	236	268
California	6,310	6,845	584	572	19,827	17,771	1,268	1,353	26,137	24,616	1,852	1,925
Alaska	28	27	2	2	21	20	2	2	49	47	4	5
Hawaii	86	92	8	8	424	418	34	35	510	510	42	43
U.S.	96,535	94,539	8,090	8,061	111,076	102,222	6,232	6,292	207,611	196,761	14,322	14,353

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	Jul	Aug	Sep	Jul	Aug	Sep
					$ billion				
Sales[1]									
At home[2]	380.2	395.3	--	35.4	34.8	32.8	232.0	266.7	299.5
Away from home[3]	297.9	301.7	--	31.0	30.4	28.4	195.0	225.4	253.8
					1998 $ billion				
Sales[1]									
At home[2]	371.0	378.5	--	34.8	34.2	32.1	221.4	255.6	287.6
Away from home[3]	289.7	286.0	--	30.2	29.6	27.6	184.2	213.8	241.4
					Percent change from year earlier ($ billion)				
Sales[1]									
At home[2]	3.4	4.0	--	3.2	3.6	1.3	3.0	3.0	2.9
Away from home[3]	3.0	1.3	--	17.0	14.9	14.6	12.0	12.4	12.7
					Percent change from year earlier (1998 $ billion)				
Sales[1]									
At home[2]	1.0	2.0	--	5.9	6.3	3.7	2.2	2.8	2.9
Away from home[3]	0.2	-1.3	--	20.4	18.2	18.2	11.1	12.0	12.7

-- = 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	Aug	Mar	Apr	May	Jun	Jul	Aug P
Rail freight rate index[1]										
(Dec. 1984=100)										
All products	111.5	112.1	113.4	113.5	112.6	112.7	112.7	112.7	112.8	112.7
Farm products	115.9	120.3	123.9	124.9	121.1	121.1	121.1	121.1	121.4	121.4
Grain food products	108.8	107.6	107.4	106.5	99.2	99.3	99.3	99.3	99.3	99.3
Grain shipments										
Rail carloadings (1,000 cars)[2]	25.2	23.2	22.8	22.3	23.3	22.6	22.6	22.2	24.6	26.5
Barge shipments (mil. ton)[3,4]	3.1	2.6	3.0	3.7	2.8	3.7	4.1	4.4	4.3	3.8
Fresh fruit and vegetable shipments[5]										
Piggy back (mil. cwt)	1.1	1.1	0.9	0.6	0.7	0.6	0.9	1.0	0.8	0.8
Rail (mil. cwt)	1.6	1.7	1.2	0.4	1.1	0.9	1.0	1.5	0.9	0.5
Truck (mil. cwt)	35.7	42.6	42.2	39.6	44.0	49.0	54.3	53.6	45.8	43.0

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*