

# AGRICULTURAL OUTLOOK



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**Cover:** No-till corn planting (bags of seed in foreground). Grant Heilman Photography.



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## Planting Intentions . . . Panama Canal . . . Aquaculture . . . Minority & Small Farms. . . Brazil's Ag Sector

### Soybean & Corn Planting Intentions Up...Again

**U.S. farmers intend to plant** a record 72 million acres of soybeans in 1998 and the most corn acreage since 1985, while reducing wheat plantings to the lowest level in 10 years, according to USDA's March 1998 *Prospective Plantings* report. These planting intentions and trend yields suggest large U.S. soybean and corn crops in 1998, while wheat output will decline. Both corn and soybean plantings have increased each year since implementation of the 1996 Farm Act, which allows farmers more planting flexibility to respond to market prices. Intended corn plantings for 1998 are higher in almost all of the Southeastern and Delta States, as acreage shifts from cotton. Most Corn Belt States show a decrease in corn planting intentions as farmers switch to soybeans despite a drop in soybean prices relative to corn. In the 1990's, growth in average soybean yields has outpaced corn, which increases relative returns to soybeans and encourages the switch.

### Squeezing Grain Through the Panama Canal

***Ships passing through the Panama Canal***—a critical link between the Atlantic and Pacific Oceans for U.S. agricultural exports to Asia—would be scraping bottom if not for restrictions on vessel draft. Panama has suffered the driest rainy season in the 83-year history of the canal, with rainfall 35 percent below normal in 1997. Water levels are now too low for large vessels to transit the canal fully loaded. Bulk U.S. agricultural exports traversing the canal (primarily corn, soybean, wheat, sorghum, and meals) are now being transported in smaller volumes, which normally raises shipping costs. But primarily because of excess capacity in the global charter vessel market and reduced demand for shipping, ocean freight rates are below year-earlier levels.

### Aquaculture Positioned To Compete In Livestock Sector

***Aquaculture now contributes more*** to per capita consumption than veal, mutton, and lamb combined. In 1997, U.S. production



of processed catfish products was close to 1 pound per capita, imports of farm-raised shrimp were likely over 1 pound per capita, and the combination of farm-raised salmon, trout, tilapia, crawfish, and other aquaculture products added another pound.

In 1998, prices for catfish, the largest segment of the U.S. aquaculture industry, are expected to increase, especially in midyear, as inventories of food-size fish tighten. But large supplies of competing meats, especially pork and chicken, may put downward pressure on prices of aquaculture products. In addition, Asian seafood exporters should find the U.S. market more attractive with the devaluation of their currencies versus the dollar.

### Status Reports: Small Farms & Minority & Women Farmers

***About 94 percent of the Nation's farms*** are small, with gross sales under \$250,000. Three-fourths are very small, with sales under \$50,000. U.S. farms operated by Blacks and by women are generally smaller than the national average and their sales of farm products are less. The number of Black-operated farms is declining at a faster rate than U.S. farms in general, while the number of farms operated by women and other minorities seems to be stable or increasing.

The information provided by USDA's Economic Research Service on economic and demographic characteristics of minority, women, and small farm operators contributed to the Department's efforts to address the special needs of these groups.

In response to charges of discrimination in USDA's program delivery system, the Secretary of Agriculture appointed, over the last year, a Civil Rights Action Team and a National Commission on Small Farms. Both bodies have made recommendations on how to better serve minority, women, and small-scale farm operators. These include targeting research and program assistance to small farms and modernizing USDA's local program delivery system.

### Brazil's Ag Sector Benefits From Economic Reform

***Brazil is among the world's leading*** producers of grains, oilseeds, beef, and poultry and is a major exporter and importer of agricultural commodities. Its agricultural sector is expected to benefit over the next decade from the country's ambitious reforms of the past few years. The government has made significant progress in restructuring the economy since launching the stabilization program known as the Real Plan in 1994. The economy has since grown by 10 percent in real terms, and the crippling inflation rates of the early 1990's have been arrested.

The soybean sector is expected to be the greatest beneficiary of the reforms; USDA's 1998 baseline projects robust growth in Brazil's soybean output and in its exports of soybeans and products through 2007/08. While wheat acreage and yields are projected to increase, production will fall short of domestic demand, and annual imports of wheat are projected to be close to 7 million tons by 2007. Corn imports are also projected to expand. Brazil is expected to remain a net exporter of meats, with production and exports of beef and poultry projected to grow steadily over the baseline period.

## Briefs

## Field Crops

## Large U.S. Soybean &amp; Corn Plantings Expected in 1998

U.S. farmers face a much-changed environment for spring plantings from last year. Both the U.S. and the rest of the world harvested large grain and oilseeds crops in 1997/98, resulting in significantly lower prices for some crops; the East Asian economic crisis shook up the world financial and commodity markets, dampening commodity demand; and El Niño is expected to continue to create uncertain weather patterns in many States.

Total area for the eight major U.S. field crops is 257 million acres in 1998, down 1.5 percent from last year's planted acreage. Lower crop prices and returns caused some farmers to reduce intended planting area, despite additional land made available from a decline in area enrolled in the Conservation Reserve Program. Farmers intend to plant a record 72 million acres of soybeans in 1998 and the most corn acreage since 1985, while reducing wheat plantings to the lowest in 10 years. These planting intentions and trend yields suggest large U.S. soybean and corn crops in 1998, while wheat output will decline.

These estimates are based on farmer surveys conducted during the first two weeks of March. USDA's *Prospective Plantings* report for 1998, released on March 31,

provides the first indication of farmers' spring planting intentions for major field crops. Actual plantings could vary from intentions with adverse weather or significant changes in prices of competing crops. For example, last year's cotton planted acreage was below its intended level because a cool, wet spring reduced plantings and more favorable economic returns boosted competing crops. USDA will release acreage estimates (in contrast to preplanting intentions) in its June 30 *Acreage* report, after crops have been planted or when planting intentions are more definite.

Both corn and soybean plantings have increased each year since implementation of the 1996 Farm Act, which allows farmers more planting flexibility to respond to market changes. Unlike earlier U.S. farm legislation, producers participating in farm programs are no longer tied to base requirements for a specific program crop or restricted by acreage reduction programs. As a result, corn and soybean acreage has continued to expand into the wheat-dominated Central and Northern Plains because of relatively higher net returns for these crops and, during the past 2 years, has also expanded into cotton producing regions in the Southeast.

Intended soybean acreage is 2 percent higher than last year, continuing a trend of greater U.S. soybean acreage since 1992, although the expansion in plantings is not as widely dispersed as last year when almost all reporting States indicated higher soybean acres. Soybean prices at planting are significantly lower than 1997 because the record South American soybean crop (to be harvested this spring) is weighing down prices. Despite the expectation of lower soybean prices this season, intended soybean plantings increased in the Corn Belt, where the growth in soybean yield has outpaced corn, due in part to increased narrow-row plantings. (Other factors that have encouraged soybean plantings include the widespread adoption of genetically modified herbicide-tolerant soybeans, which reduces input costs; higher soybean prices relative to competing crops; and farm program changes.)

In addition, acreage shows a strong shift toward soybeans at the expense of wheat in North Dakota and of wheat and corn in Nebraska. But farmers in the Southeast and Mid-Atlantic States decreased their intended plantings of soybeans after last year's spike.

Corn growers intend to plant 80.8 million acres in 1998, up 1 percent from last year's planted acreage. Despite abundant competitor supplies and lower demand from East Asia reducing U.S. corn exports, corn prices in early spring were relatively unchanged from a year ago as expanding domestic demand for feeding and industrial use in 1997/98 more than offset the reduction in exports. Most Corn Belt States—with the exception of Iowa, Missouri, and Minnesota—show a decrease in planting intentions as farmers switch to soybeans. However, intended corn plantings are higher in almost all of the Southeastern and Delta States for 1998, as acreage shifts from cotton. In the Dakotas, corn planting intentions are greater this year because of unfavorable agronomic and market conditions for wheat. Wheat prices are considerably lower in 1998 than last year because of large U.S. and world supplies.

Planting intentions for sorghum are down most among other feed grains—11 percent from last year's planted acreage. Intended sorghum plantings are lower in most major

Soybean and Corn Planting Intentions Rise, Wheat Falls in 1998

	1997			1998
	Intended acreage	Planted acreage	Harvested acreage	Intended acreage
Million acres				
Corn	81.5	80.2	73.7	80.8
Soybeans	68.8	70.9	69.9	72.0
Wheat	69.2	71.0	63.6	67.0
Sorghum	10.9	10.1	9.4	9.0
Barley	7.0	6.9	6.4	6.8
Oats	5.3	5.2	2.9	5.2
Rice	2.9	3.1	3.0	3.1
Cotton	14.5	13.8	13.3	13.2
Total	260.1	261.2	242.2	257.1

Economic Research Service, USDA

## Rethinking the Soybean-to-Corn Price Ratio

Analysts have long compared the soybean-corn price ratio at planting time with the break-even price ratio (BEPR)—the ratio of soybean and corn prices that equates the expected net returns of the two crops—to determine whether producers would switch from one crop to the other. But differences in yield gains, expansion of corn and soybean acreage outside the Corn Belt, and policy changes—particularly increased planting flexibility under the 1996 Farm Act—have affected the relationship and, to a certain extent, made this old rule of thumb less complete in capturing the competition for cropland use among major field crops.

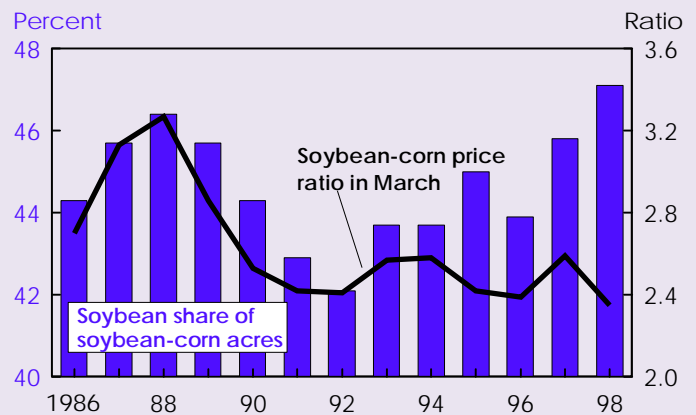
The soybean-to-corn price ratio as used here is a simple measure of relative returns for soybeans and corn. If producers expect the soybean-to-corn price ratio to exceed the BEPR, there would be a tendency to switch from corn to soybean plantings. Conversely, if the expected soybean-to-corn price ratio is below the BEPR, the reverse would be true. The soybean-to-corn price ratio is calculated by dividing November soybean futures prices by December corn futures prices in mid-March—when most corn planting decisions are made by producers. (Futures prices are first adjusted to a U.S. farm-level equivalent.) Based on new crop futures prices in mid-March 1998, the ratio was 2.35, down from 2.4-2.6 during the last few years.

The BEPR is calculated using expected yields of corn and soybeans, the expected price of corn, the variable costs of corn and soybean production, the expected program payments (used in the calculation prior to 1996 when they impacted planting decisions), and expenses associated with maintaining conserving-use of Acreage Reduction Program acres (also used prior to 1996). The BEPR currently hovers around 2.5 at the national level (e.g., \$6.50 per bushel of soybeans divided by \$2.60 per bushel of corn). This is down from 2.6 in the early 1990's and about 3 in the late 1980's. A lower BEPR offers producers a greater incentive to switch from corn to soybean plantings.

The BEPR has declined in the last decade for two reasons. First, average yield growth, which boosts net returns per acre, has been faster for soybeans in the 1990's than for corn (and increased relative to soybean yield growth in the 1980's). Second, farm program payments (which were received for corn production but not for soybeans) have had a diminishing influence on the break-even calculation due to changes in farm legislation such as declining deficiency payment rates and maximum payment acres. Deficiency payments for corn production were high in some years during 1986-90, which was a strong deterrent to switching to soybeans. Moreover, protecting corn base acreage to qualify for future payment was an institutional barrier not reflected in the estimated soybean-to-corn price ratio. Under the 1996 Farm Act, farm payments are not relevant in a break-even analysis because they are not associated with production of any particular crop (i.e., deficiency payments were discontinued).

The soybean-to-corn price ratio will only partly explain producers' acreage choices between corn and soybeans in the future. Producers will pay closer attention to other price ratios now that plantings are more flexible under the 1996 Farm Act, and as corn and soybean production expands outside the Corn Belt.

### Planting Intentions No Longer Track Soybean-Corn Price Movements



Economic Research Service, USDA

Thus, analysts who forecast corn and soybean plantings must be mindful of other crops competing for cropland use outside the Corn Belt. In the Great Plains, the prices of soybeans and corn relative to winter wheat are likely becoming more important, as are the prices of soybeans and other oilseeds relative to spring wheat. In the Delta and Southeast regions, soybean and corn prices relative to cotton are becoming important.

The recent introduction and fast adoption of new crop technologies could also add uncertainty to the soybean-to-corn price ratio. At this point, these crop technologies tend to achieve more cost savings in input use for soybeans than for corn. For example, Roundup Ready varieties of soybeans reportedly achieve a cost saving of \$15 to \$20 per acre in herbicide use. If these varieties account for 25 percent of all soybean acreage in 1998, adoption lowers the break-even price ratio by about 0.03 (excluding any changes in yield expectations). Quicker adoption of the crop technology could lower it even more, assuming no dramatic changes in corn costs.

Similarly, the adoption of narrow-row plantings has promoted a faster yield gain for soybeans since the early 1990's, relative to the historic yield trend. Yield gains in soybeans have been astounding in recent years, while the yield pattern for corn has been more erratic and, for the last 3 years, at or below trend. Over the last 5 years, soybeans' higher yield gain resulted in an annual average decline of 0.04 in the break-even price ratio (holding costs of production constant).

Corn and soybean plantings will still be affected by weather conditions even if farmers consider all relevant price relationships. Persistent wet conditions in spring can delay corn plantings, for example, and cause a switch from corn to soybeans regardless of the price ratio. Also, persistent plant disease (e.g., for Northern Plains spring wheat) can alter crop choices. William Lin (202) 694-5303 and Peter A. Riley (202) 694-5308 [wwlin@econ.ag.gov](mailto:wwlin@econ.ag.gov); [pariley@econ.ag.gov](mailto:pariley@econ.ag.gov)

## Briefs

producing States, with a large drop in Texas as acreage shifts toward corn and cotton. Barley intentions are 2 percent lower than last year's planted acreage. North Dakota, the largest barley producing State, reduced its intended plantings because of several years of scab disease outbreaks as well as a poor barley price outlook. Despite lower prices, planting intentions for oats are virtually unchanged from 1997, but it would still be the second lowest planted acreage on record.


Total wheat area intentions for 1998—at 67 million acres—are down 6 percent from last year's planted area. In 1998, farmers intend to reduce "other" spring wheat (i.e., non-durum) plantings by 16 percent from 1997 to the lowest level in 10 years. Unfavorable spring wheat prices and several years of widespread disease problems have encouraged Northern Plains producers to plant alternative crops, including durum, soybeans, and minor oilseeds (including sunflowers). Prospective durum wheat intentions are 4.1 million acres, up 25 percent from last year's planted acreage and the highest since 1982. With durum wheat prices currently at a strong premium, farmers in Minnesota, Montana, and North Dakota plan to shift toward durum and away from other spring wheat.

In January, the *Winter Wheat and Rye Seedlings* report indicated that farmers planted 46.6 million acres of winter wheat, the lowest since 1973. Global wheat production reached a record level in 1997/98, and the U.S. harvested its largest crop in 7 years, resulting in low price expectations for winter wheat at planting last fall. Farmers have sought more profitable crops, and in Kansas, pro-

ducers have indicated a shift toward planting soybeans and corn or possibly increasing fallow land.

Cotton planting intentions are 13.2 million acres, 4 percent lower than last year's planted acreage. Cotton prices have fallen for the second straight year, while alternative crops remain attractive. Additionally, some producers are reportedly shifting away from cotton because of higher input costs (e.g., pesticides) relative to other crops. Intended cotton acreage is down in both the Delta region and the Southeast for 1998 while corn plantings increase. However, Texas producers intend to seed more cotton acreage in 1998 compared with last year, when wet conditions in south Texas hindered planting.

Rice growers intend to plant 3.1 million acres, a 1-percent increase from 1997, with long-grain and medium-grain plantings both indicated up 1 percent from last year. Planting intentions are higher or unchanged this year in five out of the six major producing States, with only Texas indicating lower acreage. U.S. rice prices have been strong during the 1997/98 crop year because of robust domestic demand and higher exports of rough rice to Latin America.

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### May Releases—USDA's Agricultural Statistics Board

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

#### May

- 1 Cheddar Cheese Prices (8:30 a.m.)
- 4 Dairy Products  
Egg Products  
Poultry Slaughter  
Crop Progress (after 4 p.m.)
- 6 Broiler Hatchery
- 8 Cheddar Cheese Prices (8:30 a.m.)
- 11 Crop Progress (after 4 p.m.)
- 12 Cotton Ginnings, Annual (8:30 a.m.)  
Crop Production (8:30 a.m.)
- 13 Broiler Hatchery
- 14 Potato Stocks  
Turkey Hatchery
- 15 Cheddar Cheese Prices (8:30 a.m.)  
Cattle on Feed
- 18 Crop Progress (after 4 p.m.)  
Milk—Production, Disposition, and Income  
Milk Production
- 20 Agricultural Chemical Usage, Field Crops  
Broiler Hatchery  
Cold Storage
- 21 Catfish Processing
- 22 Cheddar Cheese Prices (8:30 a.m.)  
Chickens and Eggs  
Farm Labor  
Livestock Slaughter
- 26 Crop Progress (after 4 p.m.)
- 27 Broiler Hatchery
- 28 Peanut Stocks and Processing
- 29 Cheddar Cheese Prices (8:30 a.m.)  
Agricultural Prices



A more detailed analysis of the soybean-to-corn price ratio is available in the 1998 *Feed Situation and Outlook Yearbook*. Call 1(800) 999-6779 to order a copy, or visit <http://usda.mannlib.cornell.edu/reports/erssor/field/fds-bby>.

**Livestock, Dairy & Poultry****Record U.S. Meat Supplies Hammer Prices**

*Record red meat and poultry production, along with clouded export prospects due to economic problems in Asia, have pressured livestock prices downward in 1998. In January-March 1998, pork production was up 12 percent from a year earlier, broiler production was up 3 percent, and beef production was up 2 percent. During the same period, hog prices sank to a 26-year low, while prices of fed cattle, broilers, and turkeys were below a year earlier.*

*With export demand sluggish, most of the additional beef production was forced into the domestic market. For broilers, however, exports remain relatively strong, which has moderated price declines. Measures of production (inventories of market hogs, cattle-on-feed, eggs set, poulters placed) indicate that the large meat output will continue until midyear, resulting in lower prices for hogs, fed cattle, broilers, and turkeys in April-June, compared with a year earlier.*

*Although meat supplies were abundant and farm prices down considerably, retail meat prices declined only about 2 percent in the first quarter from a year earlier. In the second quarter, primary market prices are expected to rebound a little, and retail prices are expected to remain down 1-2 percent from a year earlier. Retail prices are usually "sticky," lagging changes in farm prices (AO December 1997). For the year, retail meat prices are expected to average about 2 percent below 1997.*

**Hog** prices in the first quarter averaged about a third below a year ago as pork production surged 12 percent above year-earlier levels and competing meat production rose 3 percent. The surge in pork production was larger than projected in late 1997 due to the under-reporting of the June-August pig crop and to the sharp increase in Canadian slaughter hogs shipped to the U.S. following the now-resolved labor problems in the Canadian packing industry. The March *Hogs and Pigs* report indicated that the June-August

pig crop was revised upward by 578,000 head (up 2.3 percent).

Although second-quarter 1998 U.S. pork production is expected to remain 12 percent above year-earlier levels, hog prices are expected to be up \$2-\$3 per cwt from the first quarter as production follows its typical seasonal decline. Retailers are expected to maintain minimal inventories, given continuing large pork supplies and implied low prices indicated by the March *Hogs and Pigs* report.

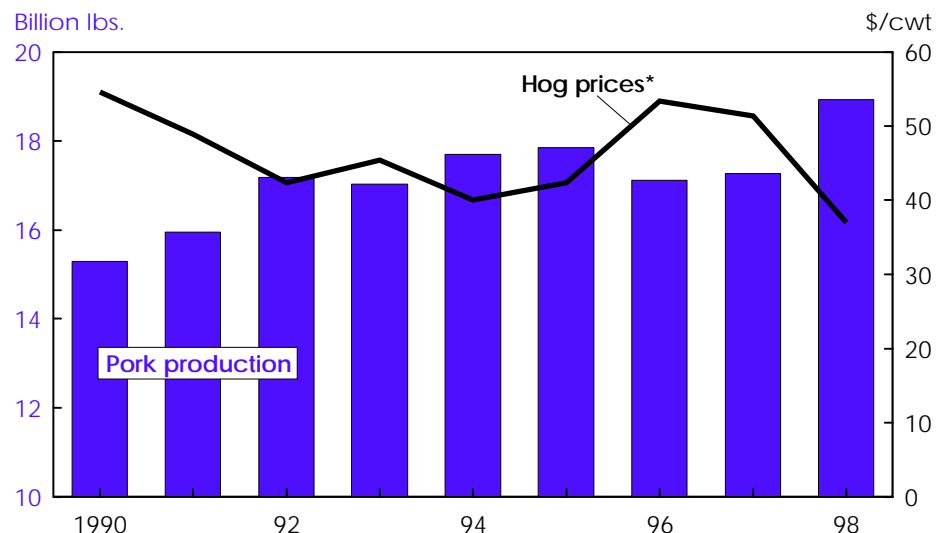
As of March 1, the hog breeding inventory was only 2 percent above a year ago. The modest rise in the breeding inventory indicates that pork production gains will slow in the second half of 1998 and in early 1999, but not enough to prevent average hog prices for 1998 from sinking to a 24-year low. Feed costs are declining, however, which softens the price impact on producers' returns. USDA's *Prospective Plantings* report indicates large planted area for corn and soybeans in 1998,

which could further reduce feed costs in the coming months.

Although pork exports in January-March 1998 are estimated up nearly 30 percent from last year's depressed level, the result of Japanese import limits, overall hog prices were relatively unaffected by the export surge. Much of the increase was likely due to sales of low-value products to countries looking for inexpensive protein products.

While the stage is set for tighter **beef** supplies and stronger prices (AO December 1997), the sector must first hurdle excess total meat supplies and sluggish demand, which will continue until domestic demand strengthens seasonally with the onset of barbecue season.

Weak international demand for high-quality beef led to minimal growth in U.S. exports in January-March 1998. On the other side of the trade ledger, beef imports in the first quarter likely rose to the highest level since 1994, as other exporters sought alternative markets for their processing beef and as the U.S. cow slaughter declined 12 percent from a year earlier. Imported processed beef and lean cow beef are blended with fed beef trimmings to produce hamburger for the domestic market.

**Large Pork Production Pulls Down Prices in 1998**

1998 forecast.

\*Barrow and gilt prices, Iowa and southern Minnesota.

Economic Research Service, USDA

## Briefs

## U.S. Livestock and Poultry Products—Market Outlook

		Beginning stocks	Production	Imports	Total supply	Exports	Ending stocks	Consumption		Primary market price
								Total	Per capita	
		Million lbs.							Lbs.	\$/cwt
Beef	1997	377	25,490	2,343	28,210	2,136	465	25,609	66.9	66.32
	1998	465	25,431	2,675	28,571	2,090	350	26,131	67.7	65-68
Pork	1997	366	17,274	633	18,273	1,044	408	16,821	48.7	51.36
	1998	408	18,930	575	19,913	1,020	470	18,423	52.9	36-38
										c/lb.
Broilers	1997	641	27,041	5	27,687	4,664	607	22,416	72.7	58.8
	1998	607	28,007	4	28,618	4,900	650	23,068	74.2	56-59
Turkeys	1997	328	5,412	1	5,741	598	415	4,727	17.6	64.9
	1998	415	5,458	1	5,874	610	425	4,838	17.9	59-62
		Million doz.							No.	c/doz.
Eggs*	1997	8.5	6,459.8	6.9	6,475.2	227.8	7.4	5,348.3	239.6	81.2
	1998	7.4	6,625.0	4.5	6,636.9	235.0	10.0	5,461.9	242.5	75-79

Based on April 9, 1998 *World Agricultural Supply and Demand Estimates*.

\*Total consumption does not include eggs used for hatching.

See appendix tables 10 and 11 for complete definition of terms.

Economic Research Service, USDA

The April *Cattle On Feed* report points to reduced beef supplies by late summer. Monthly feedlot placements in the seven reporting States have been below year-earlier levels since October, which continues to pull down cattle-on-feed inventories. Feedlot placements in March were down 16 percent from a year earlier, with first-quarter placements also down 16 percent. Feeder cattle supplies outside feedlots continued to decline, with supplies down less than 1 percent from April 1997. Fed-cattle marketings during the first quarter were up only about 1 percent, suggesting more cattle at heavier weights were carried over into the spring quarter. Federally inspected slaughter weights for steers and heifers in March were 30 and 26 pounds above a year earlier.

Fed-cattle prices remain under pressure from large supplies of heavy cattle and burdensome supplies of competing meats. Fed-steer prices averaged in the mid-\$60's per cwt during the first half of April, up from the low 60's in the first quarter. Prices will likely remain in the mid-\$60's through summer, then rise to the upper \$60's this fall as supplies decline. In

comparison, 1997 prices averaged nearly \$66 per cwt in every quarter. Since breakeven prices continue to average in the upper \$60's, feedlot losses remain large. While above a year earlier, prices for feeder cattle are in the mid-\$70's and under pressure from large fed cattle supplies. In contrast, prices for utility cows (cows sold for processing) remain strong as cow slaughter declines.

Relatively slow production gains and continued growth in exports are supporting **broiler** prices. Wholesale prices in March were about 10 percent above the December 1997 lows and are approaching year-earlier levels. Increases in broilers placed have continued small through February and March and will limit the April-June production increase to only 2-3 percent from a year earlier. Larger increases in broiler production can be expected in the last half of 1998 if relatively strong increases in egg sets continue. Despite abundant supplies of competing meats, wholesale broiler prices are likely to decline by only 1 cent per pound.

Wholesale **turkey** prices averaged 55 cents per pound in January-March 1998, the lowest since 1988. Contributing factors include a 5-percent production increase, weakness in the export market, and large supplies of pork. Production has increased as higher average weights per bird more than offset declines in bird numbers. If larger bird weights continue, production for the year may be larger than in 1997, even though poult (young turkey) placement numbers indicate that fewer turkeys will be available during most of 1998. Turkey production is expected to be below a year earlier for the remainder of the year, registering only a 1-percent gain for the year. The dropoff in production should boost prices into the mid-60 cents-per-pound range this fall.

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## Commodity Spotlight



USDA Soil Conservation Service

# Aquaculture Grows as Source of U.S. Seafood Supply

Over the last decade, U.S. average per capita seafood consumption has remained relatively flat, at around 15 pounds, roughly 2-3 pounds less than turkey consumption. The source of supply, however, has begun to shift away from wild harvest toward aquaculture. In 1997, U.S. production of processed catfish products was close to 1 pound per capita, imports of farm-raised shrimp were likely over 1 pound per capita, and the combination of farm-raised salmon, trout, tilapia, crawfish, and other aquaculture products probably added another pound. Aquaculture, at over 3 pounds per capita, now contributes more per capita to consumption than veal, mutton, and lamb combined.

Aquaculture has several advantages over wild harvest or catch. In particular, the quantity available and the quality of supplies are more reliable, an increasingly important advantage as fishing rights in certain waters have become an international issue.

Among the factors influencing the domestic aquaculture industry in 1998 are prices for catfish, the largest segment of the industry. Catfish prices are expected to increase, especially in midyear, as lower inventories of food-size fish tighten avail-

able supplies. However, large supplies of competing meats, especially pork and chicken, may put downward pressure on prices of aquaculture products. And Asian seafood exporters, with the devaluation of their currencies versus the dollar, should find the U.S. market more attractive.

### *Some Catfish Inventories Down*

The catfish industry has been the most successful segment of U.S. aquaculture. Over the last decade, production has increased 87 percent, from 280 million to 525 million pounds. Production is concentrated in Mississippi, Alabama, Arkansas, and Louisiana, primarily due to their combination of warm climates, heavy soils for pond construction, and good water availability. These States produced 97 percent of total U.S. catfish output in 1997, with Mississippi alone accounting for 64 percent of production. In 1997, about 93 percent of all production was sold to catfish processors. The remainder was sold directly to retailers or consumers.

Growers reported starting 1998 with 8 percent fewer food-size catfish, as falling farm-level prices in 1997 led growers to cut inventories. Grower-held inventories were down for most categories of food-size fish, although small food-size fish

(0.75 pound to 1.5 pounds) were up fractionally. Grower reports of the number of fish in inventory below food size were mixed—stockers (0.06 pound to 0.75 pound) were down 19 percent, but fingerlings (below 0.06 pound) were 18 percent higher than the previous year.

When the current food-size fish were being stocked in 1997, farm prices for catfish began to drop, and prices for soybean meal (50 percent of the catfish feed ration) were at a record high. The pressure these two conditions placed on producers' returns likely caused them to reduce stocking rates. However, soybean meal prices, after reaching their record in May 1997, declined sharply, reducing feed costs about enough to offset the decline in farm prices of catfish. Expectations are that soybean meal prices will decline even further in 1998, removing feed-price pressures on stocker inventories.

As of January 1, 1998, catfish growers indicated that their broodfish (breeding) stock inventories increased to 1.19 million fish, up 2 percent from 1997. The estimated weight of these broodfish, however, increased less than 1 percent. Since total egg production is a function of body weight, the less-than-1-percent increase in body mass of the broodfish will probably be more significant to production than the 2-percent increase in the broodfish inventory. Production of fingerlings and stockers in 1998 is expected to be roughly the same as in 1997.

Growers anticipated, as of January 1, 1998, that 173,010 acres of ponds will be in use during first-half 1998, down about 3,500 acres from 1997, which saw a large increase in acreage. Growers also reported plans to renovate or construct about 8,300 acres of ponds, only about a third of the estimate for the first half of 1997, reflecting falling farm-level catfish prices during 1997. Most of the acreage decline was in the four largest producing States—Mississippi, Arkansas, Alabama, and Louisiana. The number of growers in these States also declined, and the trend toward smaller numbers of larger farms is expected to continue as growers seek to lower their average production costs by spreading the costs of specialized equipment over larger operations.

## Commodity Spotlight

### Total Farm Catfish Sales Declined Slightly in 1997

Total sales by catfish farmers in 1997 fell 1 percent to \$422 million, with lower revenues from sales of all categories of fish—food-size, stockers, and fingerlings. The poundage of food-size fish increased strongly (up 7 percent from 1996)—farmers reported total sales of food-size fish were a record 563 million pounds—but the higher poundage was offset by an 8-percent decrease in prices, from 77 to 71 cents a pound. Poundage sold of stocker and fingerling fish were both down, but the lower poundage of sales helped to hold up their prices. Average unit prices for both size classes showed no change between 1996 and 1997.

Grower sales of food-size fish to processors accounted for 525 million pounds of total sales. The remaining 38 million pounds were sold through other channels, such as directly to consumers or restaurants, or to brokers or wholesalers.

Processor sales rose in 1997 for the third consecutive year. After increasing 5 percent in 1996, sales were up an additional 10 percent to 262 million pounds in 1997. Sales of both fresh and frozen product were at record levels overall, posting double-digit increases in 1997.

The only category of processor sales that declined in 1997 was frozen whole fish, which accounted for only 5 percent of processor sales.

The increase in processor sales was enough to offset a 4-percent decrease in overall processor prices, the second year in a row that overall processor prices have declined. Gross processor revenues in 1997 increased by just over \$30 million to \$591 million. Processor prices were lower throughout 1997 compared with a year earlier and were lowest during the summer months, when sales volumes posted their strongest gains. In 1998, gross processor revenues are again expected to increase, this time as a result of a small increase in sales volume combined with slightly higher prices.

Much of the future growth in catfish sales is expected to come from fillets and other prepared products. Many chain restaurants and food services now use portion-controlled ready-to-cook products, and with increasing time pressures, many U.S. consumers are also looking for fully prepared products. Processor sales are expected to expand in 1998, but prices are expected to be under competitive pressure from other seafood products and meat products.

### Catfish Sales & Prices Outpace Early Expectations

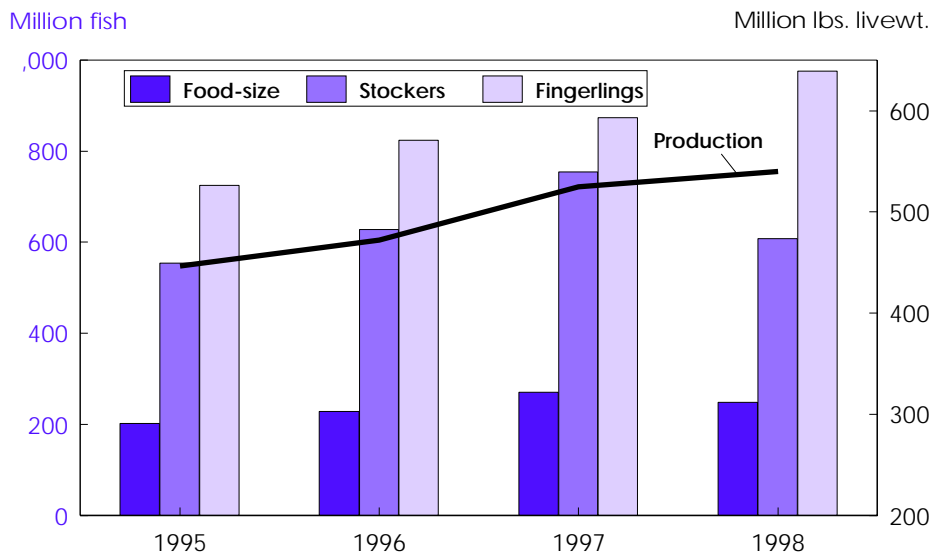
Based on inventories reported by growers at the start of 1998, catfish production had been expected to grow only modestly in 1998. Grower prices were anticipated to increase slowly in the second and third quarters as supplies of food-size fish tighten. However, sales have been much stronger and prices have increased much faster than expected. During the first quarter of 1998, sales of catfish to processors have been at record levels and prices have risen from 69 cents per pound in January to a reported 80 cents per pound in March. The expected result will be very tight supplies of food-size fish into at least the third quarter, with prices at or very close to record levels.

### Slower Growth in Catfish Output To Strengthen Prices in 1998

Based on grower inventories reported for January 1, catfish sales by growers to processors in 1998 are forecast to expand to 535-545 million pounds, up only 2-4 percent, after increasing 11 percent in 1997. The smaller inventories of food-size fish are expected to reduce the supplies of fish for consumption in early 1998. Processors' inventories of catfish products were also down slightly from the same time the previous year, compounding the tight supplies resulting from lower grower inventories. At the same time, strong demand for catfish is anticipated from the restaurant and foodservice sectors, estimated by the U.S. Department of Commerce's National Marine Fisheries Service in 1995 to account for over two-thirds of all seafood sales.

The much smaller increase in production expected in 1998, combined with the demand fueled by a strong domestic economy, is expected to exert some upward pressure on both farm and processor prices. As prices for food-size fish move slowly upward, prices for stockers and fingerlings should also show some upward strength. If corn and soybean prices move lower and these declines result in reduced feed costs, prices for smaller fish (stockers and fingerlings)

### Farm Production of Catfish Rising More Slowly As Stocker and Food-Size Inventories Decline



## Commodity Spotlight

could see additional upward pressure, as growers may increase feeding rates to attempt to get their smaller fish to market size sooner. The impact of lower supplies of all food-size fish, however, may not be felt until the second quarter.

The expected lower prices for pork and chicken products in the first half of 1998 may tend to blunt any strengthening in catfish farm prices. Prices for hogs are expected to average over a third lower in first-half 1998 compared with a year earlier, and wholesale chicken prices are expected to decline about 7 percent. Competition for catfish may also arise from lower priced imported seafood items from Asia, such as tilapia and shrimp products. The currencies of Thailand and Indonesia, both major seafood exporters to the U.S., have fallen considerably versus the dollar since third-quarter 1997.

Sales to processors in January 1998 were 47 million pounds, up 10 percent despite the lower inventories of food-size fish at the start of the year. Sales through the first quarter of 1998 are expected to average about 5 percent above the 136 million pounds of a year earlier, normally the strongest sales period. Prices are expected to average around 70 to 71 cents a pound, down from 73 cents in first-quarter 1997.

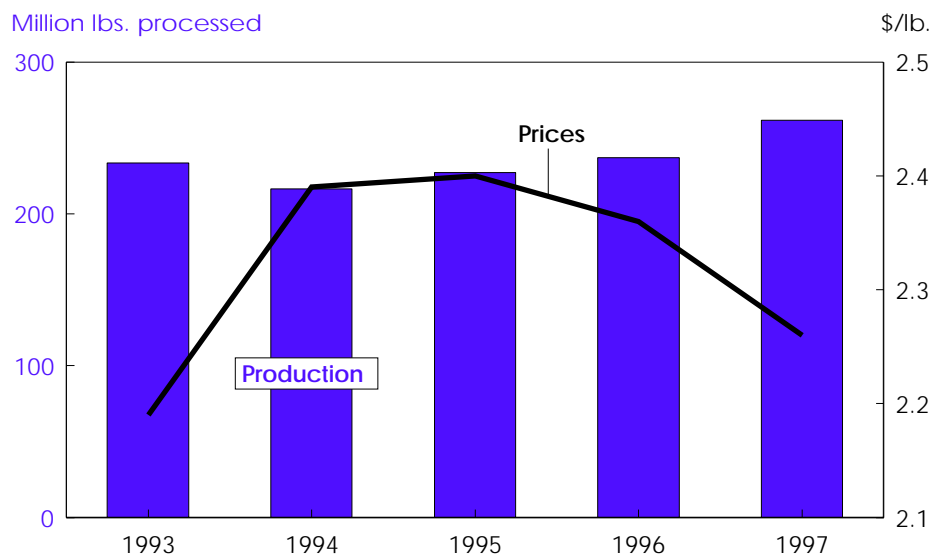
In the second and third quarters, the 19-percent decrease at the start of the year in reported inventories for stockers is expected to lead to tightened supplies. As a result, prices to farmers should strengthen. While many of the stockers currently in inventory will likely achieve market size during first-half 1998, most of the fingerlings in inventory will not be ready for market until the latter part of the year. If processor demand remains strong during the second and third quarters, there could be periods of reduced supplies of food-size fish before the fingerlings achieve market weight.

### ***Tilapia Imports Continue Upward***

Tilapia is a commonly grown species in many Asian countries, and U.S. sales have benefited from a growing Asian population in the U.S. While more grocery

### **Processor Prices Fall as Processed Catfish Production Increases**

Million lbs. processed



Economic Research Service, USDA

chains and seafood stores are carrying tilapia products, restaurants are still the primary sales outlet. The value of tilapia imports in 1997 increased 15 percent to \$49 million, following a 26-percent increase in 1996. The volume of tilapia imports in 1997 increased 28 percent to 53.9 million pounds, with 42.2 million pounds imported as frozen whole fish and the remainder as fresh or frozen fillets. On a liveweight basis, U.S. imports of tilapia in 1997 were the equivalent of 82 million pounds of foreign production.

Imports of tilapia were higher in 1997 for all of the import classes. On a quantity basis, frozen whole fish imports make up 78 percent of total imports, but growth in imports of fresh and frozen fillets has pushed their percentage of the market, on a value basis, to over 50 percent. Prices for frozen fish averaged only 57 cents per pound in 1997, down markedly from 71 cents a pound the previous year. Imports of fresh fillets come chiefly from Central and South America, regions close enough for quick transport to the U.S., while frozen fillets are from Southeast Asia and Taiwan. Frozen whole fish come mostly from Taiwan.

The value of imported tilapia increased as a drop in average price, from \$1.03 to

92 cents per pound, resulted in an increased quantity of tilapia entering the country. Larger shipments and declining prices for frozen whole fish were primarily responsible for the falling average import price. The average price for fresh fillets—at \$2.25 per pound, much higher than that for frozen whole fish—declined only slightly, and the average price for frozen fillets—\$2.05—increased by 5 cents per pound.

U.S. imports of tilapia are forecast to expand in 1998. The rapid increases in tilapia imports over the last several years have fueled expectations that further reductions in price will increase demand. If that is true, imports could increase markedly in 1998 as currency devaluations in some of the major Asian supplying nations (Thailand and Indonesia) reduce prices. Tilapia demand may also be increasing as more U.S. consumers become familiar with the relatively new product. Domestic production is expected to increase, but will be limited by the extent of growth in the live market, the biggest outlet for domestic producers. Live fish and frozen whole fish go mostly to Asian markets and Asian restaurants in the U.S., where many dishes call for whole fish.

## Commodity Spotlight

### *U.S. Imports At Record Level for Salmon . . .*

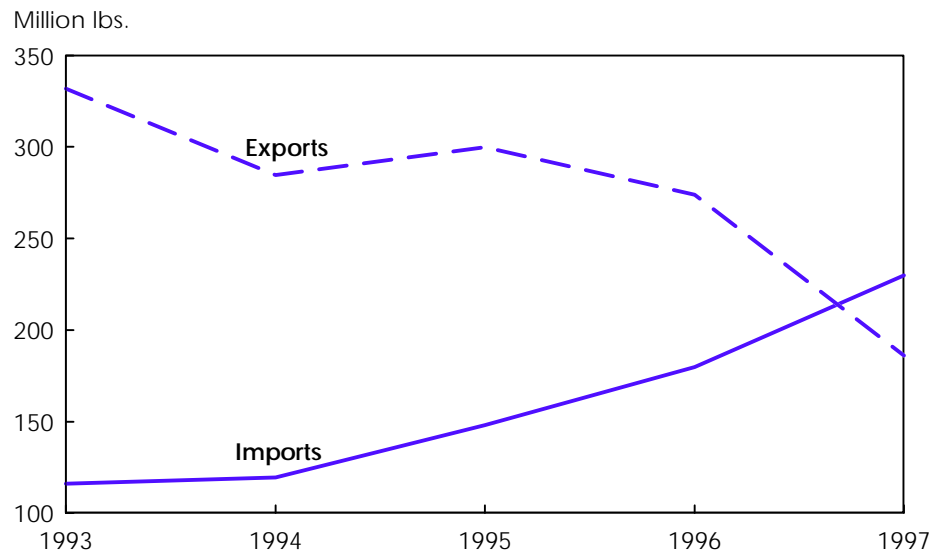
Final figures for U.S. farm-raised salmon production in 1997 are expected to show little or no growth from the 1996 output of 33 million pounds. The picture for domestic growers in 1998 looks much the same, with little or no growth in production and with strong competition from wild salmon harvests in Alaska and from producers in Chile and Canada. With no great increase in new site approvals expected, any increase in production would have to come from higher yields at present production sites.

Atlantic salmon imports to the U.S., both farm-raised and wild-catch, reached 165 million pounds in 1997, up 30 percent from 1996. The 78-percent increase in imports of fillets, to 58 million pounds, accounted for a large part of the overall increase, although shipments rose in all three categories—fillets and fresh or frozen whole fish. With an increase of almost 26 million pounds between 1996 and 1997, fillets now account for over one-third of all Atlantic salmon imports, up from only 19 percent in 1995.

Most of the increase in imports came from the Canadian and Chilean salmon industries, which combined to supply 93 percent of all Atlantic salmon imports. Chile is the dominant supplier of imported salmon fillets, but imports of fresh whole salmon from Canada rose by 23 million pounds, and Canada was again the largest supplier by product weight and value. Benefiting from a strong domestic economy and a lower domestic wild salmon harvest, average prices for Atlantic salmon imports rose 6 percent, even as supply rose 30 percent.

Farmed production accounts for almost all of the increased imports of Atlantic salmon products. Atlantic salmon are not native to Chile—100 percent of their production is farm-raised. Canada has some wild Atlantic salmon runs, but almost all of its commercial exports come from farm operations. Over the last several years, a slowdown in U.S. salmon exports and a rapid increase in Atlantic salmon imports has started to change the U.S. salmon industry. Preliminary trade data show the U.S. was a net importer of fresh and

### Fresh and Frozen Salmon Imports Surpass Exports



Economic Research Service, USDA

frozen salmon for the first time in 1997. The U.S. remains a net exporter of salmon overall because it ships large amounts of canned salmon overseas.

The transformation of the U.S. from a net exporter to a net importer of fresh and frozen salmon has been caused by several factors. The wild salmon harvest was lower in 1997, especially for sockeye salmon, the largest U.S. salmon export product. Also, exports to Japan, by far the largest U.S. market, have been weak as a result of slowing economic growth and strong competition from Chilean and Norwegian producers. At the same time, the strong U.S. economy has helped boost restaurant sales and kept domestic wild harvest salmon supplies in the U.S.

### *. . . & for Shrimp*

After declining the previous 2 years, total shrimp imports in 1997, both farm-raised and wild-catch, were a record \$2.95 billion. The increase stems from both a higher volume of imports—648 million pounds, up 11 percent from 1996—and a 34-cent increase in the average unit price of imported shrimp—from \$4.22 to \$4.56 per pound. Imports of frozen shrimp (shell-on or peeled) and prepared shrimp (e.g. breaded, canned, pre-cooked) rose substantially in 1997.

While the total quantity of imported shrimp products has stayed within a fairly narrow band—582 million to 648 million pounds since 1992—there has been a steady growth in imports of prepared shrimp products. Shrimp imports are still dominated by frozen shell-on or peeled products, but the value of prepared products has more than tripled between 1992 and 1997. At almost \$375 million, prepared shrimp products now account for about 13 percent of the value of all shrimp imports.

This steady growth in imports of prepared shrimp is likely to continue for a number of reasons. First, almost all seafood exporters are looking for ways to add value to their products. At the same time, as farming accounts for a larger percentage of total shrimp production, the full-year capacity of these operations, in contrast to the seasonality of wild harvest, makes it profitable for companies to establish processing plants. Finally, most major shrimp farming countries have a significant wage rate advantage over the U.S., increasing the cost-effectiveness of processing shrimp outside the U.S.

Over the last decade, imported shrimp became a much greater component of total U.S. shrimp supply. Data from the National Marine Fisheries Service indicate that domestic landings of shrimp

## Commodity Spotlight


have been steady or declining slightly while shrimp imports are rising, increasingly supplied by the growth in farmed production. In 1988, imports of shrimp products were 2.6 times greater than domestic landings. By 1996, the ratio of imported shrimp to domestic landings had risen to 3.7.

The U.S. shrimp farming industry has remained small, with an annual production of only several million pounds, the result of a combination of economic, climatic, and technological constraints. Unlike all but a few areas of the U.S., most shrimp farming regions have tropical climates that allow year-round shrimp farming. In addition, shrimp farming requires a coastal location, and in the U.S., the cost of most coastal property makes shrimp farming economically unfeasible. Intensive water recirculating systems would theoretically make shrimp farming possible in many areas of the U.S., but the technology has not yet proved economical.

In 1998, shrimp imports are expected to continue to expand as a strong U.S. economy creates increased demand and the

devaluation of several Southeast Asian currencies is expected to reduce the relative price of imported farmed shrimp products. In addition, the problems in the economies of many Southeast Asian countries are expected to reduce their domestic consumption. Coupled with a slowdown in the Japanese economy—Japan has traditionally been the world's largest market for shrimp—this decline will lead many shrimp exporters to more heavily target the U.S. market.

There are a number of potential downsides to the current economic problems in Asia for shrimp exporters. Currency devaluations may sharply increase the cost of imported supplies critical to shrimp farming, causing a decline in production. And if the economic crisis becomes too severe, it could hamper the ability of firms to conduct normal business operations and thus interfere with exports. Any declines in Asian production, however, would create opportunities for producers in such countries as Mexico and Ecuador, and would not necessarily reduce supplies of imported shrimp to the U.S.

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

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

#### May

- 13 *Cotton and Wool Outlook*  
(4 p.m.)\*\*
- Feed Outlook* (4 p.m.)\*\*
- Oil Crops Outlook* (4 p.m.)\*\*
- Rice Outlook* (4 p.m.)\*\*
- Wheat Outlook* (4 p.m.)\*\*
- 19 *Livestock, Dairy, & Poultry*  
(3 p.m.)
- 20 *Agricultural Outlook\**
- 21 *Sugar and Sweeteners\**
- 22 *Transition Economies\**  
*U.S. Agricultural Trade Update*  
(3 p.m.)
- 29 *Agricultural Exports\**

\*Release of summary, 3 p.m.

\*\*Available electronically only.

### *IN THE NEXT AGRICULTURAL OUTLOOK . . .*

The first production and price forecasts for field crops in 1998/99 and for meat in 1999.

## World Agriculture & Trade



Panama Canal Commission

# Squeezing Grain Through the Panama Canal

**E**l Niño continues to leave its mark on U.S. agriculture, this time on the transport of commodities through the Panama Canal, a critical link between the Atlantic and Pacific Oceans for U.S. agricultural exports to Asia. Panama has suffered the driest rainy season (May-December) in the 83-year history of the canal, with rainfall 35 percent below normal in 1997. The Gatun and Madden Lakes, which provide fresh water to the canal, are 60 percent below normal. Water levels are now too low for large vessels to transit the canal fully loaded.

To maintain water flows in the three sets of locks that raise and lower vessels across the isthmus, the Panama Canal Commission (PCC)—the joint U.S.-Panamanian agency that runs the canal—is implementing water conservation measures and restricting vessel draft (the depth a ship is immersed in the water). The result is to effectively limit the amount of cargo loaded on some ships passing through the canal. Forty ocean-going vessels transit the 51-mile Panama Canal lock system every day (taking about 8 hours per transit through the locks). A vessel requires about 52 million gallons of water for passage through the locks.

Bulk U.S. agricultural exports transported through the canal (primarily corn, soybean, wheat, sorghum, and meals) are now being transported in smaller volumes, which normally raises shipping costs. But because of excess capacity in the global charter vessel market and reduced demand for shipping, ocean freight rates are below year-earlier levels. The major effect is on the ability of U.S. exporters to supply full loads to foreign buyers. If draft restrictions continue through the spring and into summer as scheduled, shipping grain and other commodities will become more challenging for U.S. exporters, vessel operators, and importers of U.S. goods.

An emergency water conservation plan was put in place for the canal in October 1997 to help delay draft restrictions. Foremost, hydroelectric power generation was suspended at the Gatun plant and the Madden Dam plant. Other water-saving measures include using tandem ship and short-chamber lockages (reduces effective chamber size), minimizing hydraulic assists (used to pull ships out of the chamber), and cross-spilling from opposite chambers (water from one chamber is used to raise a ship in an adjacent chamber).

The actions resulted in water savings equivalent to 60 lockages (i.e., full

passage through all 3 sets of locks) per month or over 3 billion gallons per month. However, the drought persisted into 1998 and forced PCC to implement draft restrictions on March 12, 1998, the first time in 14 years. The PCC expects the restrictions to continue through October 1998. Fortunately, these draft restrictions are occurring during the canal's slow season, April to September.

Under normal operating conditions, the maximum allowable draft is 39.5 feet. Beginning March 12, vessels were limited to a 39-foot draft. The PCC announces each new restriction (in 6-inch increments) at least 2-3 weeks in advance of the effective date to give shipping companies ample time to alter vessel loadings.

Panamax vessels, which carry most U.S. grain, are affected first, since they are the largest vessels capable of transiting the canal at a draft of 39.5 feet. Even though 30 percent of the vessels transiting the canal in fiscal year 1997 (beginning October) were this size, only about 8 percent of the ships transited the canal with drafts exceeding 39 feet. The PCC estimates that 17 percent of the 8,850 vessels expected to transit throughout the draft restriction period will be affected by the restrictions.

Each 6-inch draft restriction displaces approximately 1,000 metric tons of cargo per Panamax (approximately 740 feet in length), or about 2 percent of the ship's capacity (55,000 tons). The PCC estimated that the first draft restriction of 39 feet displaced 700 tons of cargo per ship. A second restriction of 38.5 feet (implemented on March 18) displaced an additional 1,030 tons per ship. When the draft restrictions reach 34 feet in mid-May (expected to be the final restriction), total displacement will be approximately 20 percent of the ship's capacity.

To meet draft restrictions and still maximize carrying capacity, vessel operators have a number of options. Many dry bulk vessels have design characteristics that give the vessels more buoyancy for better draft flexibility. For those vessels, the operator can apply with the PCC for a 6-inch deeper draft through the canal. If such a waiver is not possible, the vessel operator can maximize the use of cargo

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capacity by sailing through the canal with less fuel. Once through the canal, the ship can top off its fuel and complete the voyage.

Other options include adjusting ballast—tanks that hold seawater, used mainly to stabilize a vessel carrying little or no cargo—to lower the bow and raise the stern or vice-versa during transit through the canal, sailing with less cargo through the canal and topping off at a port on the other side of the canal, or using smaller charter vessels that are less affected by draft restrictions. Depending on the severity and length of the drought, vessel operators have the option to sail around the Cape of Good Hope in South Africa and through the Indian Ocean. This lengthens the normal 30-day trip between the Gulf of Mexico to Asian ports to about 50 days.

In fiscal 1997, more than 13,500 vessels transported 189 million tons of cargo through the canal. Vessel transits going from the Pacific Ocean to the Atlantic Ocean (northbound movements) made up 49 percent of total transits and 39 percent of the cargo weight, while transits from the Atlantic to the Pacific (southbound movements) made up 51 percent of total transits and 61 percent of the cargo weight. U.S. agricultural exports transiting the canal totaled 38 million tons in 1996. Corn was 57 percent of the total, with soybeans, wheat, and sorghum accounting for another 36 percent.

U.S. grain continues to pass through the canal, but the volume per ship is less. Normally, shipping costs are redistributed across the loaded volume. For example, the 35.5-foot draft restriction effective April 19 roughly translates into \$2.50 per ton (assuming a rate of \$17.50 per ton from the U.S. Gulf to Japan) for a typical Panamax ship carrying grain.

### Bulk Shipping

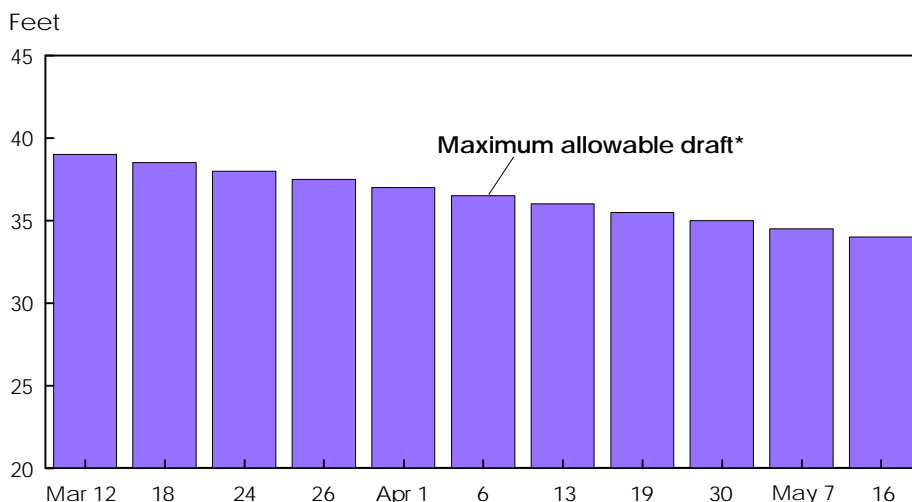
Bulk vessels transport numerous liquid and dry bulk commodities and products. Dry bulk is divided into two groups: major bulks (iron ore, metallurgical coal, steam coal, bauxite and alumina, phosphate rock, and grain, including soybeans but not rice) and minor bulks (steel products, forest products, cement, fertilizers, manganese, scrap, coke, pig iron, sugar,

soybean meal, and rice). In 1995, major agriculture-related products accounted for 13 percent of the 3.7 billion tons transported in the world's seaborne trade lanes. Bulk vessels are not necessarily dedicated to specific commodities and can be cleaned between uses.

Transport of bulk products occurs through a bulk vessel charter arrangement to haul a specific commodity from a specific origin to a specific destination at an agreed-upon rate and time. Many contracts for a charter

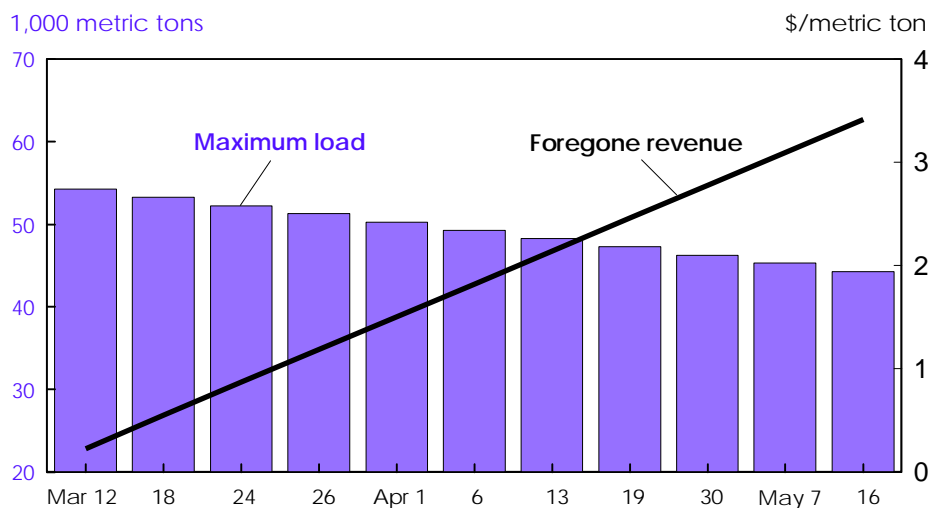
vessel, or "fixtures" as they are called, are arranged to maximize vessel capacity at all times. In some instances, vessel operators will pick up cargo from more than one port to maximize carrying capacity. Once the cargo is loaded, it is transported to its destination and unloaded. The operator will then pick up another shipment from the same port or one nearby and transport to another destination to repeat the cycle. If a cargo is not available for immediate pickup, the ship may sail empty until a shipment can be secured.

### As Panama Canal Draft Restrictions Intensify . . .



\*The depth a ship is immersed in water.

### . . . Maximum Load Declines, Reducing Returns to Shipping



Assumes a Panamax vessel loaded at 55,000 tons of grain and a rate of \$17.50 per ton. Revenue distributed across loaded volume.

Economic Research Service, USDA

## World Agriculture & Trade

Vessels transporting bulk commodities are identified by their size within three categories measured in deadweight tonnage (dwt): Handy (10,000-50,000 dwt), Panamax (50,000-70,000 dwt), and Capesize (70,000-300,000 dwt, often subdivided into three further categories depending on the trade route). Bulk grain products, particularly corn and soybeans, move predominantly in Panamax vessels. The Panamax transports a significant volume of product, keeping costs per unit down, while requiring a draft that is universal in major world ports. It also offers excellent flexibility to charter backhaul cargo to minimize repositioning costs and avoid layup.

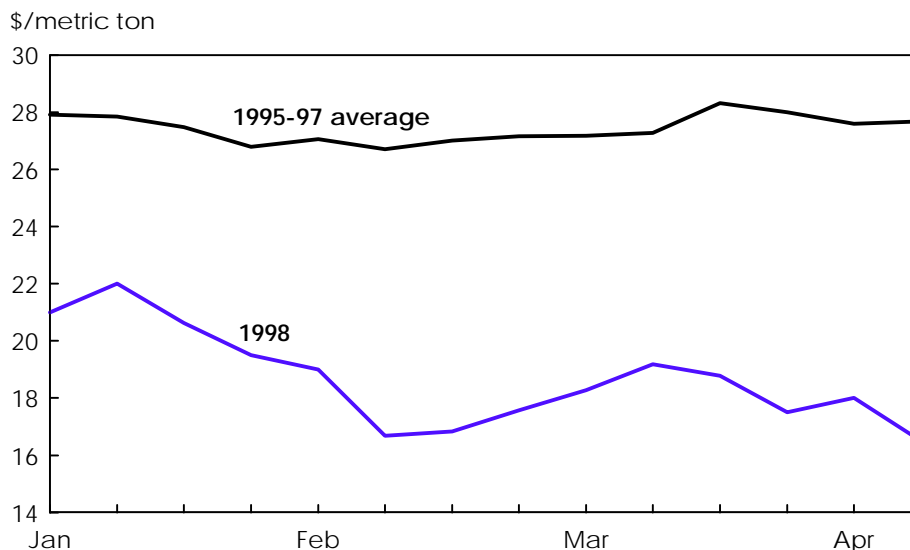
### Charter Vessel Rates Sink

In 1996, the bulk charter carrier fleet consisted of more than 5,000 vessels worldwide with total deadweight tonnage of 230.1 million. Today, the vessel capacity has reportedly climbed to 263 million tons. Two economic factors have led to the supply buildup. First, prior to the Asian financial situation in late 1997 and early 1998, vessel owners responded to low ship prices by purchasing new ships to meet growing Asian demand for cargo movements. Second, scrap value for older vessels has plummeted to such low levels that vessel operators are idling vessels rather than scrapping them.

Meanwhile, the Asian financial situation has cooled demand in that region for bulk commodities, including U.S. grain. In Japan, for example, steel production is reportedly forecast down 5 percent in 1998 from a year earlier, which subsequently decreases imports of coal and ore (inputs used for steel production) and reduces automobile exports. As a result, charter vessel contracts in Japan, both origination and destination, were down 30 percent in March 1998 from a year earlier.

For agricultural commodities, U.S. exports have been lackluster in 1997/98, reflecting overall world demand. U.S. bulk commodity exports were \$9 billion in January 1998, down 9 percent from a year earlier. From October 1997 to January 1998, U.S. corn exports were 12.6 million tons, down 34 percent from a year earlier. U.S. corn exports face strong competition from China, Eastern Europe,

### Ocean Freight Rates Through the Panama Canal Are Lower in 1998



Rates for grain transport from U.S. Gulf ports to Japan.  
Economic Research Service, USDA

and Argentina, as well as dampened demand in Asia. However, not all U.S. grain exports have decreased in 1998—wheat and soybean exports are running ahead of year-earlier levels.

According to the trade publication *Lloyd's List*, world demand for bulk products is forecast to fall to 240 million tons in 1998, or about 9 percent below the capacity of the world fleet. The net result is too many ships chasing too little cargo.

Ocean freight rates for the movement of grain from the U.S. to Japan, a key route used to evaluate global ocean freight rates, have plummeted during the first few months of 1998 and are not expected to increase significantly through spring and summer 1998. Rates from the U.S. Gulf to Japan during the first quarter of 1998 averaged \$18.84 per ton, 25 percent below a year earlier. Some rates have since fallen to \$15.50 per ton. Ocean rates during 1995-97 (first quarters only) averaged \$27.41 per ton. Rates from the Pacific Northwest to Japan, another key route, have also decreased. During the first quarter of 1998, ocean rates averaged \$10.84 per ton, nearly \$5 below the first-quarter average of 1995-97.

Ocean freight rates are critical in the movement of bulk grains. The selection of

a port is based on the location of the importing country, the proximity of stored grain to a specific port region, interior transportation rates, and ocean rates. U.S. exports of corn and soybeans depart largely from the U.S. Gulf, while Pacific Northwest ports move a significant volume of Asian-bound corn and wheat. The Gulf handles about 70 percent of grain and soybean exports. These two port regions offer exporters excellent access to the global market.

About 50 percent of U.S. grain and soybean exports are shipped to Asia, particularly for satisfying feed demand for expanding livestock production. Most import operations coordinate their grain arrivals to receive full loads of grain (i.e., 50,000-55,000 tons) in order to minimize per-unit transport and unloading costs and to maintain buffer stocks. Importers who are unable to receive desired quantities at attractive freight rates from one source will seek others that can meet their demand. However, many Asian importers have found that it is much easier to finance a smaller cargo, due to the current financial crisis, and are seeking cargoes from countries using smaller boats, so smaller loads are not an issue in most cases.

When draft restrictions limit the amount of grain that can be loaded and shipped

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through the Panama Canal, shippers incur an "opportunity cost" from foregone revenue of the displaced cargo. To make up for the loss, shippers attempt to pass along the additional cost to the grain exporter by raising ocean freight rates. But this is unlikely under current circumstances, given excess supply in the charter vessel market and reduced demand for shipping grain and other bulk commodities.

With strong competition among vessels to obtain loads, transport rates are lower than year-earlier levels. In fact, ocean freight rates are the lowest in recent history, which implies that draft restrictions at the Panama Canal are having little impact on ocean rates or on the ability of U.S. shippers to export grain.

Without these mitigating factors, the implications of the continued draft restric-

tions could be serious. Importers in general want a consistent volume of grain, and any alterations in U.S. capacity to supply at desired volumes reduces U.S. competitiveness in Asian markets.

An impact is possible if the El Niño-related drought in Panama lingers longer than expected (weather forecasts predict rain to return in May when the rainy season usually begins), further intensifying draft restrictions beyond those currently planned. Also, an impact from the restrictions would surface in the unlikely event that reduced demand for bulk shipping or demand for smaller loads is short-lived.

If ocean rates through the Panama Canal suddenly increase to a level that diverts proportionately more grain shipments through the Pacific Northwest, domestic grain shippers and exporters will be challenged to reposition grain from

domestic supply sources to export positions over a congested rail system (*AO* March 1998), and vessel operators would be challenged to strategically position their vessels at U.S. ports for commodity pickup and delivery.

A return to normal weather will recharge the canal system, particularly the lakes that feed it. Full draft in the canal is not expected before October.

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*For more information on the Panama Canal and its operations, point your Internet browser to <http://www.pancanal.com>.*

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## Farm & Rural Communities



### Status Report

## Minority & Women Farmers In the U.S.

Farms operated by Blacks and by women are generally smaller in acreage and in sales than the national average, while Asian and Pacific Islander farms average more than double the average of sales for all U.S. farms. American Indian-operated farms tend to specialize in livestock, especially beef cattle, as do Black-operated farms. Asians and Pacific Islanders, however, specialize more frequently in fruits, vegetables, and horticultural products. Hispanic operators are concentrated in Florida and the Southwest, while most American Indians farm west of the Mississippi. Black farmers are mostly in the South, while Asians and Pacific Islanders are concentrated on the Pacific Coast and Hawaii. The number of Black-operated farms is declining at a faster rate than U.S. farms in general, while the number of farms operated by women and other minorities seems to be stable or increasing.

Information on the economic and demographic characteristics of minority and female farmers was provided by USDA's Economic Research Service (ERS) as part of the Department's effort to address their special needs. Minority farmers in 1996 had charged that USDA's program delivery system had discriminated against

minority and women farmers and contributed to the loss of minority-owned farms. The Secretary of Agriculture responded to these charges within weeks by appointing a Civil Rights Action Team (CRAT) to investigate long-standing civil rights complaints against the Department.

Much of the criticism at listening sessions held around the country targeted the extensive, and relatively autonomous, delivery system of State and county field offices and locally elected farmer committees, and the failure of USDA programs to address the special needs of minority and women farmers. A key CRAT recommendation called for investigating and modernizing the local delivery system to make it more directly accountable to USDA. Other recommendations addressed complaints about the appeals process for farmers who believe they have been treated unfairly in USDA program decisions. CRAT also recommended efforts to ensure that farm programs take account of the differing circumstances of minority and women farmers, such as targeting research and funding to small-scale and limited-resource farms and disseminating information through alternative media and in languages other than English.

Behind the recent charges of discrimination against USDA has been concern over the severe decline in the number and percentage of U.S. farms operated by minorities, particularly Blacks. The number of all U.S. farms declined 70 percent over 72 years—from 6,454,000 in 1920 to 1,925,300 in 1992—and the decline in farms run by non-Whites has been even more dramatic—from 954,300 to 43,500, a 95-percent decline. Put another way, the proportion of non-White farms among all farms in the U.S. fell from 15 percent in 1920 to 2 percent in 1992.

The decline in non-White farmers has not been evenly distributed; Black-operated farms declined most rapidly. The number of Black farmers fell dramatically from 925,700 in 1920 (1 in 7 farms) to only 18,800 in 1992 (1 in 100 farms). In recent years (1982-92) the number of Black farmers has continued to decline. In contrast, the numbers of other minority farmers, including women and Hispanics, have stabilized or increased. Whereas Black farmers accounted for 97 percent of non-White farmers in 1920, by 1992 they accounted for only 43 percent.

Some conditions that have led to the long-term decline in the number of Black farmers are common to the loss of U.S. farms in general. Agriculture's shift from a labor-intensive to a capital-intensive enterprise hastened the exit of both Black and White farm operators, most often those with operations unable to support investments in new machinery and chemical inputs. Since World War II, better-paid nonfarm jobs have drawn both Black and White farmers from the land.

Black farmers experienced a disproportionate effect from these influences since their social and economic position in the South prevented many from acquiring sufficient land to take advantage of cost-saving innovations in agricultural production. Blacks also often had limited access to information that would have enabled them to protect their land from tax, credit, inheritance, and other laws affecting landholding. For example, Black farmowners frequently left land to heirs without a will, resulting in division of a farm's ownership among a large number of children and their heirs. Such fragmented ownership could end in the loss of the farm if some heirs wished to

## Farm &amp; Rural Communities

sell. It also made it difficult for the one or two heirs who continued to operate the farm to secure loans, since they might not be able to show clear title to all of the land as collateral.

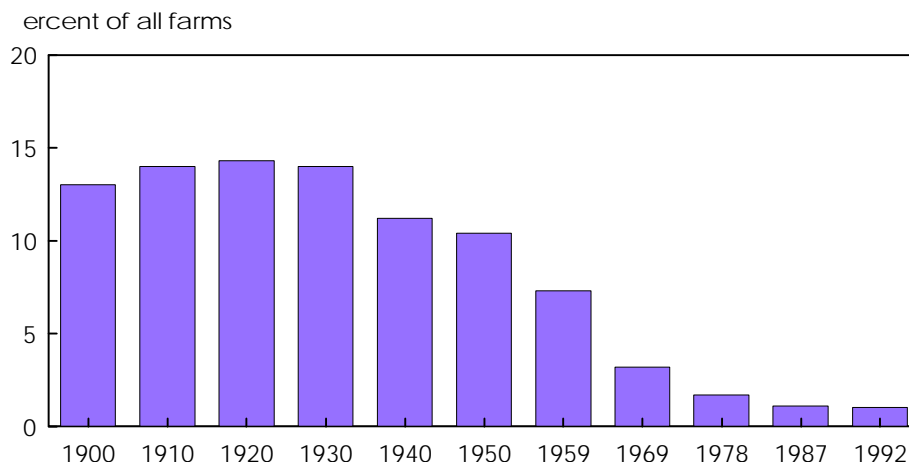
Changes in the structure of cotton farming—influenced by mechanization, damage from the boll weevil, Federal programs in the 1930's that paid landowners not to plant cotton, and the shift of cotton production to the irrigated West—further accelerated the exit of Black farmers. Many of the farm operators counted earlier in the century were sharecroppers or other tenants on southern farms. As cotton production declined in the South and required less labor, Black tenants moved out of rural areas. The exodus rapidly reduced the number of Black farmers, although Black farmers who remained were more likely to own the land they farmed.

Moreover, many Federal agricultural programs designed to assist farmers in adapting to a rapidly changing agricultural sector—e.g., loans, technical assistance, commodity programs, insurance—often failed to reach Black and other minority farmers for various reasons, including inadequate design, poor outreach, insufficient funding, and discrimination. Farmers speaking at USDA-sponsored listening sessions held as part of the Department's civil rights review in January 1997 offered evidence that such programs continue to underserve minority farmers, for most of the same reasons.

Many of these farmers also identified deterrents to entry of young Blacks into agriculture as a concern. Since many remaining Black farmers are relatively old, deterrents to entry of young Black operators—e.g., the loss of family land, through foreclosures and estate sales and difficulty in obtaining credit and technical assistance—make halting the decline in Black farming difficult.

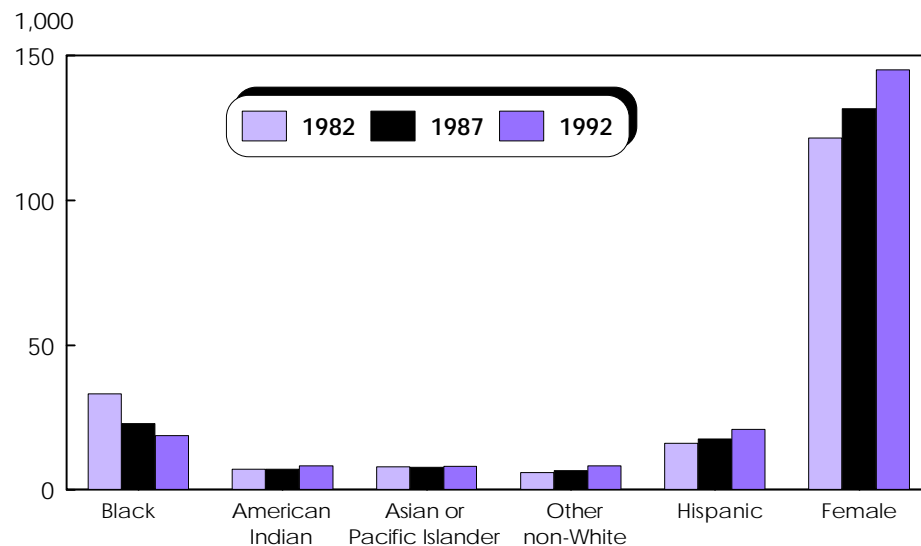
Other factors have contributed to the declining numbers of young Blacks entering farming. For example, desegregation in the 1960's, by closing Black schools and ending separate extension services for Blacks, brought an end to farm clubs and vocational agriculture programs directed specifically toward Black youths. These

### Share of Farms Operated by Blacks Has Declined Dramatically



Source: U.S. Census of Agriculture.

### Number of Farms Operated by Women and Other Minorities Remain Steady, in Contrast with Black-Operated Farms



Total U.S. farms in 1982: 2,240,976; 1987: 2,087,759; 1992: 1,925,300.

Source: U.S. Census of Agriculture.

Economic Research Service, USDA

events reduced the accessibility of training for a career in agriculture, and in part led to reduced demand for agricultural education by young Blacks. Combined with competition for students from newly integrated state universities, this reduced demand also contributed to reduced support for the agriculture programs at the historically Black land-grant universities. These are the institutions—the 1890 land-

grants—that have traditionally focused research on the specific problems of Black farmers and others who operate small farms with limited resources.

Although the number of farms operated by minorities and women may be stable or increasing, most, like Blacks, operate relatively small farms and suffer from the difficulties of small farms in general, with

## Farm & Rural Communities

### Characteristics of Minority & Women Farmers

Minority and women farmers are a small proportion of U.S. farmers. In 1992, the most recent census of agriculture data available, 43,500 farm operators, representing more than 2 percent of all U.S. farms, identified their *race* as non-White. Among them were 18,800 Blacks, who operated about 1 percent of all U.S. farms. Others included more than 8,300 American Indians and 8,100 Asians and Pacific Islanders. The remaining 8,200 operators identified themselves as “other,” a category largely made up of Hispanics who did not regard themselves as White, Black, or American Indian. About 21,000 farm operators identified their *ethnicity* as Hispanic, constituting just over 1 percent of U.S. farms. Women operated 145,200 farms, 7.5 percent of the U.S. total.

#### Farm Size

Most minority and women farmers operate small farms, but generalizing about minority farmers is difficult since characteristics of minority- and women-operated farms differ widely from group to group. Farms operated by *Blacks* in 1992 were very small, compared with the average U.S. farm or with farms run by other minorities. Black-operated farms averaged only 123 acres and less than \$20,000 per farm in gross sales per year, compared with the U.S. average of 491 acres and \$84,500. Only 12 percent of Black-operated farms had annual sales greater than \$25,000.

In contrast, the average farm operated by *American Indians* was large, 5,791 acres in 1992. This average, however, included farms owned or controlled by reservations, which have in the past been counted as a single operation. Some of these “farms” can be extensive, encompassing thousands of acres devoted to a diverse mix of range and cropland. Sales on farms run by American Indians averaged \$49,300, substantially less than the national average, and 64 percent of American Indian-operated farms had sales of less than \$10,000.

Farms operated by *Asians and Pacific Islanders* averaged only 140 acres, but tended to be large in terms of sales. Sales averaged \$192,200, more than double the U.S. average in 1992. About 45 percent of farms operated by Asians and Pacific Islanders had sales greater than \$25,000, compared with 37 percent of all U.S. farms. Three-fourths of Asians and Pacific Islanders raised high-value specialty crops, which helps explain the high average sales per farm, despite the group’s relatively low average acreage.

On average, farms operated by *Hispanics* are larger than U.S. farms in general. Hispanic-run farms averaged 591 acres in 1992, 100 acres larger than the U.S. average. Sales from Hispanic farms averaged \$115,200, or about \$30,700 more than the U.S. average. However, the share of Hispanic-run

farms with sales of at least \$25,000 was only 27 percent, compared with 37 percent for all farms. Thus, the high average sales for the Hispanic group reflected large sales by a relatively small number of farms, probably the 24 percent raising high-value specialty crops (vegetables, fruits, tree nuts, and horticultural specialties).

Farms of *female* operators were smaller on average—309 acres—than the U.S. average, although not as small as those of Blacks or Asians and Pacific Islanders. The average value of sales, however—\$35,300—fell below all other operator groups except Blacks. Two-thirds of female-operated farms had sales below \$10,000, compared with half of all U.S. farms, and only 20 percent had sales of \$25,000 or more.

#### Regional Concentration & Specialization

Minority and women farmers operate farms all over the U.S., but most minority groups were concentrated in particular regions, specializing in particular types of agriculture. Approximately 93 percent of *Black* farmers lived in the South (including Texas and Oklahoma). Black-owned farms specialized most frequently in beef cattle, although 10 percent of all farms run by Blacks specialized in tobacco.

Most *American Indian* operators (81 percent) lived west of the Mississippi River, although North Carolina was home to 600 Indian operators. Farms run by American Indians tended also to specialize in livestock. About 50 percent of these farms specialized in beef cattle in 1992, and another 21 percent specialized in other livestock or were general farms producing primarily livestock. Many of North Carolina’s operators, however, specialized in tobacco.

Four Pacific States—California, Hawaii, Oregon, and Washington—accounted for 84 percent of *Asian and Pacific Islander* operators. Farm operators of Japanese descent were the largest single group. In Hawaii, 2,000 Japanese farmers operated 36 percent of all farms, growing fruits, horticultural products, and vegetables.

The census of agriculture does not differentiate Asians and Pacific Islanders by national origin except in Hawaii, but by combining census of agriculture data with data gathered from the 1990 population census and interviews with local USDA offices, more detailed information on Asian farm operators can be reported. California had about 1,800 *Japanese* farm operators in 1990, concentrated primarily in Fresno County, where they raised tree fruits. The next largest concentration of Japanese-operated farms—about 60—was in the irrigated Snake River Plains of Malheur County, Oregon. Some of the farms were established following World War II by Japanese

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families displaced from the West Coast during the war. These Oregon farms specialized in irrigated row crops and dairying.

*Asian Indians* formed a second concentration of Asian farmers in California. A population of about 1,100 in Sutter County, three-fourths of them foreign-born, was primarily engaged in farming, largely growing tree fruits. Another, smaller group grew primarily grapes in Fresno County. A small number (fewer than 200) of *Southeast Asian* immigrants (including Hmong, a Laotian ethnic minority) also were farm operators in California in 1990. In Fresno County, recent refugees produced berries and Asian vegetables on contract using small rented plots.

Approximately 72 percent of *Hispanic* operators lived in five States in 1992—California, Colorado, Florida, New Mexico, and Texas. Some are descended from the original settlers who moved into the area during the Spanish colonial period. The most common specialization for Hispanics, as for Blacks and American Indians and for U.S. farms in general, was beef cattle. About 39 percent of Hispanic-run farms specialized in beef cattle in 1992, compared with 32 percent of all U.S. farms. The share of Hispanic-operated farms specializing in high-value specialty crops (24 percent) was three times the U.S. average.

Farms operated by *women* were distributed fairly evenly throughout the U.S. Female-operated farms were only about half as likely as all U.S. farms to specialize in cash grains and were more likely than all U.S. farms to raise livestock or high-value crops.

### Operator Age & Farm Tenure

Most minority farm operators are older than the average for U.S. farm operators. This is especially true for Black and Japanese farmers, for whom the entry rate of young farmers has been low for many years. The average age of *Black* operators was 59 years, and 38 percent of all Black farmers were 65 years or older, making Black farm operators older on average than other minority groups and U.S. farm operators in general. *Asian and Pacific Islander* operators as a group also tended to be older than U.S. farm operators in general in 1992. They averaged 55 years of age, compared with 53 years for all operators, an average influenced heavily by the high average age of the Japanese. About 30 percent were at least 65 years of age, compared with 25 percent of all U.S. operators.

Average age among some minorities, however, remained at or below the average for all U.S. operators in 1992. With only 20 percent at least 65 years old, *American Indian* opera-

tors were slightly younger, on average, than U.S. farm operators in general. Hispanic operators' average age matched the U.S. average for farm operators at 53, but only 22 percent were at least 65 years old, compared with the 25-percent average for all U.S. operators.

*Female* operators' average age was 58 years in 1992, about 5 years older than the U.S. average. About 36 percent of female operators were at least 65 years old, 11 percentage points higher than the U.S. average. This is primarily the result of the relatively large number who inherited their operations as widows. However, between 1982 and 1992 the number of early middle-aged women farmers increased.

Fifty-five percent of all U.S. farm operators reported farming as their principal occupation in 1992. Only 44 percent of *Black* farm operators reported farming as their principal occupation, which is compatible with their specialization in beef cattle—a sector with relatively flexible labor requirements that work well with an off-farm job. *American Indian* operators also reported farming as their principal occupation at a lower rate than the U.S. average—46 percent. About half of *Hispanic* operators reported farming as their principal occupation, the same rate as *women* farm operators. Only *Asian and Pacific Islander* operators were more likely to report farming as their major occupation—62 percent—than U.S. operators in general, reflecting their more frequently large-scale operations.

The tenure pattern of minority farmers differed somewhat from the average for all U.S. farms. Minority farmers were slightly more likely to own all the land they operated (ranging from 60 percent for *American Indian* operators to 62 percent for *Blacks, Hispanics, and Asians and Pacific Islanders*) than the average for all U.S. farmers (58 percent). All minority groups except for *Asians and Pacific Islanders* ranged slightly below the U.S. average (31 percent) for part ownership (own some land and lease some land)—from 24 to 28 percent—and varied around the U.S. average (11 percent) for tenants—from 11 to 15 percent. *Asians and Pacific Islanders*, in contrast, had a much higher tenancy rate—24 percent—and a much lower part-ownership rate—14 percent. *Women* farm operators displayed a different tenure pattern from minority and all U.S. farm operators—78 percent of women operators were full owners of their farms, with only 15 percent part owners and 7 percent tenants.

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the added disadvantage of outreach and program designs not always well-suited to their particular needs.

### *Addressing the Needs of Minority & Women Farmers*

At the heart of the USDA Civil Rights Action Team (CRAT) report, *Civil Rights at the U.S. Department of Agriculture*, were 92 recommendations to address civil rights issues in the Department. Following the report's release on February 28, 1997, the Secretary appointed a new team, the Civil Rights Implementation Team (CRIT). The new team issued a report, *Civil Rights at the U.S. Department of Agriculture: One Year of Change*, in March 1998.

Fifty of the CRAT report's recommendations applied to the areas of program delivery and outreach to minority and women farmers. The President's fiscal-year 1999 budget includes nearly \$250 million to support civil rights initiatives at USDA. Of that sum, \$232 million (93 percent) is dedicated to improvement of program delivery and outreach. The Secretary has also submitted to Congress a proposal to repeal provisions in the 1996 Farm Act that bar farmers who have received a debt write-down from receiving further Federal farm loans. The legislative proposal developed by CRIT also includes provisions for improved access to credit in rural housing and conservation programs, as well.

Modernizing USDA's Farm Service Agency county committee system was a priority in the Department's efforts to respond to charges of discrimination in program delivery. These local, farmer-elected committees have been the focus of much of the criticism aimed at USDA by minority farmers. Legislative proposals developed by CRIT provide for conversion of the locally hired staff of these committees to Federal status. The legislative proposal also includes language to add new voting members to the county committees, which have often under-represented minority and women farmers.

Ending any current discriminatory treatment in USDA programs has been another priority. The Secretary formally halted all 4,500 pending USDA farm foreclosures,

### Selected Characteristics of Minority and Women Farm Operators

Group	Farms	Share of all U.S. farms	Land per farm	Sales per farm	Average age of operator	Farming reported as major occupation
	Number	Percent	Acres	Dollars	Years	Percent
Nonwhite operators	43,487	2.3	1,270	70,659	55	48.1
Black	18,816	1.0	123	19,431	59	44.0
American Indian	8,346	0.4	5,791	49,338	52	45.9
Asian or Pacific Islander	8,096	0.4	140	192,156	55	62.0
Other <sup>1</sup>	8,229	0.4	421	89,887	51	45.7
Hispanic operators <sup>2</sup>	20,956	1.1	591	115,200	53	49.7
Female operators <sup>2</sup>	145,156	7.5	309	35,281	58	50.6
All U.S. operators	1,925,300	100.0	491	84,459	53	54.7

1. Primarily limited to persons native to or of ancestry from Mexico, the Caribbean, and Central and South America. 2. Hispanic and female operators may be of any race.

Source: 1992 Census of Agriculture.

Economic Research Service, USDA

and following review of more than 70 percent of the cases by late February 1998, has held more than 100 for further civil rights investigation. CRAT also recommended settlement of all—more than 1,000—pending program discrimination cases within 4 months. However, many of these settlements were delayed because CRIT found that investigations, some dating back to the early 1980's, had been neglected following the 1983 disbanding of the USDA civil rights investigative unit.

Failure to meet the recommended schedule for settling this backlog contributed to the filing of a class action lawsuit by a group of Black farmers in August 1997. The suit alleges USDA discriminated against all Black farmers from 1983 until the issuing of USDA's civil rights report in February 1997. The Department of Justice settled four individual complaints encompassed in the class action through mediation in October 1997, with payment of damages totaling \$1.2 million. The remaining farmers requested alternative dispute resolution, and at the urging of a Federal judge, USDA agreed to a mediation process in December 1997, to last 6 months, that will attempt to settle the complaints contained in the class action suit. Legal barriers, such as statute-of-limitations restrictions on some of the older complaints, are being addressed with the assistance of the Department of Justice and the White House and may require legislation to resolve.

CRAT also adopted a recommendation suggested by minority farm advocates to establish a voluntary register of minority farmers. The register would help track and target programs to address the loss of minority-owned farmland. As developed by CRIT, it will include minority farm operators, whether or not they own land, and minority farmland owners, whether or not they operate a farm. The list will include all minority, racial, and ethnic groups who have experienced declining numbers of farmers and/or loss of land ownership, or whose numbers are disproportionately small among farm operators and farmland owners.

To improve USDA's outreach to minorities and other underserved groups, the Secretary of Agriculture established an Office of Outreach in August 1997. The office is developing a 5-year strategic plan—working with individual agencies and soon-to-be-formed State and national outreach councils, as well as tribal governments and the Department of the Interior—to help tailor outreach efforts to local customer and program delivery needs. The Office of Outreach will maintain the register of minority farm operators and has assumed responsibility for the Outreach and Technical Assistance to Socially Disadvantaged Farmers (2501) program.

## Farm &amp; Rural Communities

## Counting Minority & Women Farmers

Both census of agriculture and census of population data are used to examine characteristics of minority operators. Compared with other sources of data on minority farmers, census data extend further into the past and provide reliable statistics for very small minorities, particularly at the State level. Obtaining an accurate count of minority farmers can be difficult, since some of the groups overlap in the census.

The census of agriculture differentiates by race among Black, American Indian, Asian or Pacific Islander, and "other." An ethnicity designation allows for recording Hispanic operators, but some Hispanic operators are also included in the non-White count, since Hispanics may be of any race. Similarly, women farmers may be included in the non-White and Hispanic counts. Note that the Census Bureau counts only one, primary operator per farm in the census of agriculture; it does not classify women who farm alongside their husbands as operators, unless they are the primary operators. Nor does it tally more than one operator in partnerships.

The census of population records data only on individuals' principal occupations. Therefore, it does not get a count of people who farm as a secondary job. The farmer count in the population census is below that of the agriculture census. However, the population census may record more than one operator per farm where spouses or grown children are partners in the work, although information on farm characteristics is not available.

The population census also allows for greater differentiation of ethnicity in all parts of the U.S. than does the census of agriculture. For example, individuals responding to the popu-

lation survey could identify themselves as Japanese, Chinese, Hmong, or Asian Indian, among others, within the larger category of Asian and Pacific Islander. The same holds true for other ethnic and racial categories.

The census of agriculture defines a farm based on average annual sales. Currently, any operation with sales of at least \$1,000 in the census year, or which would normally have had such sales, is counted as a farm. Changing that definition, as was recently considered by the U.S. Bureau of the Census, could have a large impact on the count of minority-operated farms. For example, raising the sales cutoff in the farm definition to \$10,000, as originally planned by Census Bureau, would have reduced the count of all U.S. farms by 47 percent. For Black operators, however, it would have reduced the count by 76 percent, for American Indian operators by 64 percent, for Hispanic operators by 60 percent, and for women operators by 65 percent.

As a result of recommendations by the USDA Civil Rights Action Team, the 1997 Census of Agriculture—administered for the first time by USDA's National Agricultural Statistics Service (NASS)—will make additional efforts to ensure accurate counting of minority farms. The number of minority farm operators on the mailing list for the census has been increased, and NASS has contacted minority operators who reported in 1992 for assistance in identifying minority farmers who were missed in the last census. Moreover, to more accurately reflect the number of American Indian farms, a newly designed procedure will estimate the number of American Indian farm operators on each reservation, ending the convention of counting each reservation as a single farm.

The 2501 program was established by the 1987 Agricultural Credit Act to improve the financial viability of farms operated by minority and women farmers. The President's fiscal-year 1999 budget requests funding for the 2501 program at the authorized level of \$10 million. Through the efforts of CRIT, the 1999 request also includes increases for other targeted direct and technical assistance programs for underserved groups, especially minority and women farmers.

USDA has also committed to expanding the capacities of land-grant and other uni-

versities and colleges that have historically served minority populations. CRAT recommended that additional resources to support research, extension, and technical assistance programs be targeted to the 17 historically Black 1890 land-grant colleges and universities and to Tuskegee University, and to the 29 tribal 1994 land-grant colleges. The Department's fiscal-year 1999 budget proposal includes \$18 million targeted to minority-serving education institutions.

Finally, CRAT recommended that USDA increase its attention to the needs of farmworkers, who are predominantly Hispanic and other minorities. The Department's focus will be to expand current programs and explore new initiatives related to pesticide safety. In the fiscal-year 2000 bud-

get proposal, \$5.5 million has been requested for Cooperative State Research, Extension, and Education Service programs for farmworkers, as well as \$3.4 million for the Natural Resources Conservation Service to be used in environmental justice programs, which will benefit farmworkers. The Secretary of Agriculture has also initiated efforts to establish a closer working partnership with the Department of Labor on farmworker issues.

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*The full reports of USDA's Civil Rights Action Team and Civil Rights Implementation Team are available on the internet at <http://www.usda.gov/news/civil>*

## Farm & Rural Communities



Jack Harrison

### Status Report

## Small Farms in the U.S.

About 94 percent of the Nation's farms are small, with gross sales under \$250,000. Three-fourths are very small, with sales under \$50,000. Despite the continued predominance of family farms in the U.S. agricultural sector, the number of farms continues to decline and ownership and control of production has become increasingly concentrated. In 1995, approximately 6 percent of U.S. farms operated 28 percent of the land in farms. Two percent of farms accounted for 40 percent of sales, and 6 percent accounted for nearly 60 percent of the value of U.S. agricultural production.

The issue of concentration in U.S. agriculture arose during investigations by the USDA Civil Rights Action Team (CRAT) in January 1997 (see preceding article). Questions about the adequacy of Federal programs and service to small farmers led to the appointment by the Secretary of Agriculture of a commission to investigate the needs of U.S. small farms—the National Commission on Small Farms. The results of the Commission's work are embodied in 146 recommendations presented in its January 1998 report, *A Time to Act*.

USDA already has a number of programs targeted or accessible to small farmers. For example, the Office for Small-Scale

Agriculture (OSSA) provides national leadership and coordination of activities that respond to the needs of small-scale farmers. Ongoing initiatives in which OSSA is involved include a small farm program at the University of California-Davis that concentrates on alternative marketing, specialty production and enterprises, getting started in farming, and the needs of small-scale, under-represented farm groups.

The Commission recommended a number of additional actions, including implementing a small farm research initiative; recommitting USDA as the "lender of last resort"; developing farmer-owned, value-added cooperatives and farm-based businesses; investigating illegal or discriminatory practices in the marketplace; and promoting and fostering local and regional food systems featuring farmers' markets, community gardens, community-supported agriculture, and direct marketing to school lunch programs. The Commission also called for forming farmer networks and mentoring programs for small farmers; establishing an interagency Beginning Farmer Initiative; developing projects for small farms using sustainable farming practices; dedicating USDA budget resources to strengthen the competitive position of small farms; and ensuring just

and humane working conditions for all people engaged in production agriculture.

At the request of the Commission, USDA's Economic Research Service (ERS) provided reports on topics ranging from the economic and demographic situation of small farms and farm operator households to credit and insurance needs of small farms to the effects of changes in marketing structures and government programs on small farms.

### *Well-Being of Farm Operator Households*

Farm household income—cash income from all sources available to the household before taxes, but after calculating depreciation—is on par with that of the average U.S. household. Estimates based on the 1995 Agricultural Resources Management Survey (ARMS) puts average farm operator household income at \$44,392, compared with \$44,938 for the average U.S. household. However, the distribution of income across operator households is more uneven than for all U.S. households.

To generate cash income close to that of all U.S. households, farms need to generate sales in the upper end of the small farm category. Operators in this category (\$100,000-\$249,999 in sales) overwhelmingly name farming as their major occupation. Still, households associated with these farms received substantial off-farm income—and generated total household income equivalent to the average for all U.S. households. Although small farm operators who named farming as their major occupation generated almost twice as much farm income as other small farms, their total household income was only 80 percent of the average U.S. household.

About 68 percent of farm operator households have income below the U.S. average, compared with just over 60 percent of all U.S. households. In part, this is due to the nature of farming, since in any given year a household may experience financial losses from the farming enterprise. Most U.S. households depend on wage earners who do not have these periodic losses.

The health of the rural economy is reflected in the fact that farm families can now earn off-farm income to mediate these farm losses—even on the largest farms,

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## Characteristics of Small Farms

U.S. farms are mostly family businesses that take the form of proprietorships, partnerships, and family corporations. Over 98 percent of all farms are family-operated and most farms are legally organized as sole proprietorships. Three percent of farms are legally organized as family corporations, which gives families tax and inheritance advantages not available to proprietorships and partnerships. Almost all of the very small farms (those with sales under \$50,000) are sole proprietorships.

Small farms (sales of less than \$250,000) accounted for 40 percent of the value of farm production in 1995—38 percent of the value of livestock and 44 percent of crops—with most of that production concentrated on farms with sales of \$50,000-\$249,999. Commodities with the highest share produced by small farms were tobacco (76 percent) and hay (69 percent). Over half the very small farms (with sales under \$50,000) raised cattle, but these contributed only 17 percent of the total value of production of cattle in the U.S., since much beef is produced on large feedlots. Very small dairy farms had an average herd of 26 cows, while dairies with sales of \$50,000-\$249,999 averaged 100 cows. Beef cattle producers in the first group averaged 40 head of cattle, while the second group averaged 138. For hogs, the difference was even greater—about 50 for the first group compared with over 300 for the second.

Compared with only 11 percent of large farms, about 35 percent of all small farms specialized in beef cattle in 1995, which often have relatively flexible labor requirements that fit well with an off-farm job or retirement. Among very small farms, the proportion raising cattle was 41 percent. Most farms do not produce just one or two commodities, but specialization does become more likely as farms get larger, and also as farms get smaller. On small farms in general, approximately 70 percent indicated they produce more than one commodity and 20 percent produce four or more commodities. Among very-small farms, however, more than 40 percent produced only one commodity and 30 percent produced only two.

While 57 percent of small farms with sales of \$50,000-\$249,999 are in the Corn Belt, Lake States, and the Northern Plains, 46 percent of all small farms are located in the South. Very small farms are heavily concentrated in the South

Fixed costs are the largest group of expenses for the average small farm. These costs remain constant regardless of the level of production, so larger farms, because they have higher levels of production, cover these fixed costs and expenses with a smaller share of their gross income.

For farms with sales of \$50,000-\$99,999, the ratio of net cash income to gross cash income is 17 percent. For farms with sales of \$100,000-\$249,999, it is 21 percent, and for large farms (sales of \$250,000 and over), the ratio is 22 percent, indicating that, on average, they will earn about 22 cents for every dollar of gross sales.

Net cash income reflects the current or short-term cash earnings available after paying all cash expenses, including interest, to distribute as income for living expenses, principal repayment on loans, income taxes, and reinvestment in the farm. It does not reflect the total cash available to farm families, because savings, farm wages paid to family members, and off-farm earnings are not included. Very small farms, those with gross sales under \$50,000, have negative net cash farm income, on average—in fact, only 37 percent have positive, although low, net cash farm income. By necessity, these farmers depend on outside sources of income for their well-being. On average in 1995, very small farm businesses had a loss of \$1,700. Other small farms (sales of \$50,000-\$249,999) had positive average net cash income of \$23,000.

Net cash income varies across regions and commodity specialization. Farms in the Southeast and cattle operations—both of which have high concentrations of very small farms—tend to have lower net cash income than other farms.

Net farm income reflects long-term profitability of the farm business. Over time, it shows the farm's ability to survive as a viable business on its own. In 1995, the average net farm income for very-small farms was \$510; on small farms with sales of \$50,000-\$249,999, it averaged \$14,335. Other benefits from the farm, such as a preferred lifestyle or capital gains on the investment in farmland, likely compensate for the relatively poor financial performance of many small farms. Many operators of small farm businesses spend most of their work time in off-farm employment, making their households less dependent on farm income for their well-being than many households operating larger farms.

The makeup of vulnerable operations (high debt and negative income) varies by economic size and economic conditions during the year, but is concentrated among the larger small farms (with gross sales of \$100,000 to \$249,999). These farms accounted for 47 percent of the vulnerable operations in 1994, up from 35 percent the year before. This group includes a greater proportion of cash grains farms, and fertilizer costs continue to be the highest proportion of their total expenses.

the average operator household received 16 percent of its total household income from off-farm sources. In the past, when the rural economy did not provide many non-farm employment opportunities, farm families often had substandard incomes. Even

now, in areas where nonfarm employment opportunities are few, operator household income is lower, and households are more dependent on the earnings of the farm.

### *Limited-Resource Farms*

By combining their farm and off-farm endeavors, many households continue to enjoy a farming lifestyle even though they have low farm income. However, some households have neither the human capital

## Farm & Rural Communities

### Characteristics of U.S. Small Farms Differ Markedly from Large Farms

	Small farms (sales less than \$250,000)			Farms with sales of \$250,000 or more	All farms
	Less than \$50,000	\$50,000-\$249,999	All small farms		
Number of farms	1,531,760	413,431	1,945,190	122,810	2,068,000
Share of all farms (percent)	74.1	20.0	94.1	5.9	100.0
Value of production (percent)	9.5	31.3	40.8	59.2	100.0
<i>Dollars</i>					
Average gross cash farm income	12,482	117,320	34,764	686,606	73,474
Livestock sales	4,671	45,910	13,436	272,625	28,828
Crop sales	3,662	52,117	13,960	331,236	32,802
Government payments	1,067	5,343	1,976	14,427	2,715
Other farm income	3,082	13,948	5,392	68,318	9,129
Average net cash farm income	-1,702	23,159	3,582	152,724	12,439
Average asset value	264,784	569,295	329,505	1,618,751	406,068
<i>Percent</i>					
Commodity speciality					
Cash grain	12.6	38.4	18.1	30.4	18.8
Other field crops	19.3	7.7	16.8	10.7	16.4
High-value crops	6.0	8.7	6.6	13.4	7.0
Beef	40.4	14.0	34.8	11.1	33.4
Hogs	3.7	4.2	3.8	6.5	4.0
Dairy	1.1	17.5	4.6	14.6	5.2
Other livestock	16.8	9.6	15.3	13.3	15.2
Farms able to generate returns equivalent to average U.S. household income	7.6	38.8	14.2	70.5	17.6

Source: 1995 Agricultural Resources Management Survey.  
Economic Research Service, USDA

to earn a successful living outside farming, nor the means to earn adequate income from farming. These *limited-resource* farm households—defined as having assets valued at less than \$150,000, sales less than \$100,000, and household income from all sources less than \$20,000—accounted for 12 percent of all farms (255,000) in 1995. The Delta and Southeast regions had a proportionately greater number of limited-resource farms than other regions.

Everywhere except the Central region, average farm income for limited-resource households is negative. None of these households had sufficient off-farm income to offset their farm losses and bring household income above \$20,000.

Minorities comprise approximately 7 percent of all farms, but are more likely to be in the limited-resource category. Approximately 13 percent of limited-resource operators are minorities, and just under 10 percent are female.

Operators of limited-resource farms tend to be older and have less formal educa-

tion. While about a quarter of farm operators in all farm households are 65 or older, about half of the limited-resource farm operators are elderly—nearly 30 percent of limited-resource farm operators consider themselves retired but still farming. Slightly more than half of all limited-resource farm operators have less than a high school education, compared with only 22 percent of operators in all farm operator households.

Elderly operators are not likely to want either to expand an operation or to enter the nonfarm labor force. Since many limited-resource operators have less formal education than other workers, they are at a disadvantage as they compete with better-educated individuals in the nonfarm economy. While farming has not been generous to this group from a financial standpoint, alternatives may be limited, and living on a farm may allow them non-monetary benefits such as a farm dwelling, value of production consumed at home, and a preferred lifestyle.

### Credit Availability Varies For Small Farms

Credit availability is key to the survival of small farms, and for helping young and beginning farmers succeed. The small farms definition, however, encompasses many different kinds of farms—including such diverse groups as limited-resource farms, retirement farms, residential/lifestyle farms, and farms where farming is the operator's main job—and their access to credit varies. For example, strong off-farm incomes, combined with low debt burdens, can make some very small farms attractive credit risks to commercial banks, which provide over half of their credit needs. For these small farm operators, access to credit appears not to be a problem.

Where credit availability is more likely to be a problem is among small and very small farmers with more limited resources. Available data do not provide information on the experiences these operators had applying for and obtaining loans, but information on debt held by these farms indicates that most had access to credit from a variety of sources. About half of small farms had debt outstanding, and most debt was supplied by banks. Data from the early 1990's indicate about one-fourth of small farm debt was supplied through USDA's Farm Service Agency (FSA) direct loans, with individuals supplying another 15 percent. In addition, trade credit provided by merchants and manufacturers has become an increasingly important method of financing loans under \$50,000.

The Commission was concerned that banks may have disincentives to make loans to small farm operators, but although smaller loans are more costly to make and service, there is no indication that regulations are biased against beginning, young, or small farmers. Smaller loans can be handled with a simple demand note, and decisions may be based on credit scoring models that can be implemented quickly. For small farm operators who score well, credit availability will not likely be a problem. Commercial bank and Farm Credit System (FCS) loan data indicate that both these lenders make a substantial number of small loans.

Although traditional financial institutions like banks may not be a viable source of credit for operators who are judged less

## Farm &amp; Rural Communities

## Defining Small Farms

The “small” farms definition is problematic. A variety of small farm definitions have been used over time. In both 1977 and 1983, Congress legislated definitions of small farms that reflected existing conditions. The 1977 definition simply defined a small farm as any establishment with sales less than \$20,000. Currently, \$50,000 is more commonly used as the dividing point between very small and larger farms, reflecting inflation and growing farm productivity over the years. The 1983 definition focused on farm households with low income that depended on farming for their living. However, farm operator households now have an average income on a par with the U.S. average and many rely heavily on off-farm income.

Almost all farms are “family” farms in that they are run by individuals or their immediate families. The Small Business Administration considers farms small businesses when they have less than \$500,000 in gross sales, except for cattle feedlots which can be as large as \$1.5 million. If USDA followed this definition, 98 percent of farms would be included as “small” businesses.

Much ERS analysis defines “small” farms as those with sales under \$50,000. The farm may be small because it is primarily a residence, or because it is being scaled down for retirement, or it may be a limited-resource operation without access to additional resources to grow. Most people with this size farm have other sources of income, but for some operators, the farm may represent a significant portion of household income or a significant source of employment.

The National Commission on Small Farms expanded the definition of small farm to include farms with gross sales of \$50,000 to \$250,000. The reasoning was that on most of these additional farms, day-to-day labor and management were provided by the farmers and/or the farm families, who own the product and own or lease the productive assets.

creditworthy, small farm loans are often made by input merchants and dealers. These businesses can offer attractive financing because they can process a loan application at a low cost at the time of purchase.

Statutes require the independent FCS lending programs to address the credit needs of young, beginning, and small farmers. Despite this targeting mandate, data collected by USDA indicate FCS lending tends to be concentrated among wealthier, older, and higher-income operators—only 4 percent of FCS debt was owed by farmers under 36, well below the 14-percent share of all farm debt owed by such farmers.

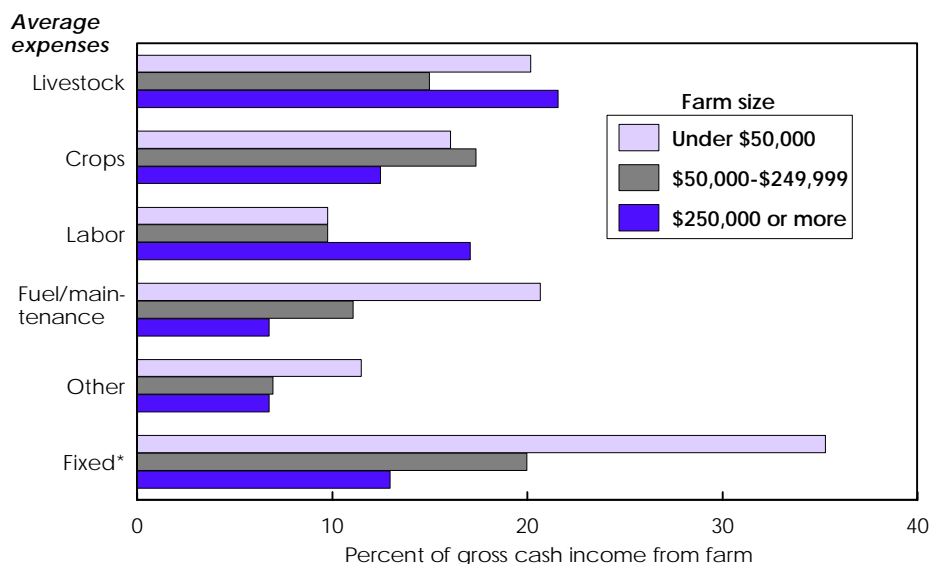
### Impacts of Recent Legislation

Changes to Federal estate tax provisions made by the 1997 Taxpayer Relief Act (AO October 1997) will make it easier to transfer the family farm business across generations by reducing the likelihood that the farm or some of its assets would need to be sold to pay Federal estate taxes. About 2 percent of estates with farms that have sales less than \$100,000, and for which farm assets are greater than nonfarm assets, owe Federal estate taxes. The increased unified credit, which sets the level of assets at which estate taxes become due, will exempt most small farms from both the payment of tax and the requirement to file an estate tax return. Some small farms will also benefit from the new family business exclusion and the lower interest rate on installment payments.

Many small farmers will also pay less Federal income tax as a result of new child tax credits, education incentives, health insurance deductions, and reduced capital gains taxes in the Taxpayer Relief Act. Small farmers will also benefit from added flexibility to deal with income fluctuations by income averaging and deferring the gain on certain weather-related livestock sales.

The Commission considered some of the implications of changes in Federal farm commodity programs for the health of

## Fixed Costs Account for the Largest Proportion of Small Farm Expenses



\*Fixed costs include real estate and property taxes, interest expenses, insurance premiums, and rent or lease payments.

Source: 1995 Agricultural Resources Management Survey.

Economic Research Service, USDA

The report of the National Commission on Small Farms, *A Time to Act*, is available on the USDA home page at: <http://www.reeusda.gov/agsys/small-farm/ncosf.htm>

## Farm & Rural Communities

small farms. The 1996 Farm Act redesigned the commodity program to move toward more market-based production in response to commodity prices. In 1995, 33 percent of farms participated in direct government commodity programs, receiving an average payment of \$8,225. Not surprisingly, because Congress had designed the program to dispense payments based on production, larger farms received higher payments per farm—small farms with \$100,000-\$249,999 in sales made up 11 percent of participating farms and received 28 percent of payments, while large farms with \$250,000 or more in sales made up 6 percent of participating farms and received 31 percent of payments. Even though larger farms received the greater share of payments, however, government payments were a larger share of gross income for the smaller farms.

Overall, farmers have seen and are likely to continue to see higher income under the 1996 Act than they would have received under previous legislation. Producers of some commodities, such as peanuts and dairy, however, will face lower returns under the farm act, which may mean problems for small producers.

The 1996 law potentially shifts more of the market risk from government to producers. Risk management through crop and revenue insurance, options, and other devices will become a more important part of successful farming. Some small farmers may lack access to information and capital required to respond to shifting market opportunities and to deal with price and market risk (AO May 1997).

According to data from the 1996 ARMS, of the over 2 million farms in the U.S., almost half a million purchased the Federal Crop Insurance Corporation's (FCIC) basic catastrophic coverage. Tiny farms (sales under \$10,000) rarely were insured under FCIC, and less than one-third of farms with sales of \$10,000-\$49,999 indicated they purchased the insurance. Over half of operators whose farms had sales over \$50,000 purchased the basic catastrophic coverage.

### Marketing on Small Farms

The Commission identified effective markets and new marketing systems as key to the strengthening of small farms. Direct selling is often portrayed as a marketing strategy for small farms. Direct marketing

includes farmers' markets; pick-your-own fruit, flowers, and berry operations; cut-your-own Christmas trees; and roadside stands. Some farmers add recreational experiences in a rural setting to draw consumers to their farms. According to the 1992 Census of Agriculture, small farms are more likely to use direct selling—direct sales amounted to 2.1 percent of total sales for farms with under \$10,000 in sales, compared with less than 1 percent for larger farms. Just under 6 percent of the operators of these smallest farms reported receipts from direct sales, totaling \$65 million, an average of \$1,300 per reporting farm.

Direct sales, however, mostly benefit farms in or near urban areas, where the bulk of direct sales occur. Farms in more remote locations need to take advantage of the growing interest in travel, tourism, and ecological/environmental issues to benefit from direct sales. Mail-order sales may also overcome the distance problem for some farmers.

Large supermarkets are trying to take advantage of consumers' growing interest in purchasing local produce and organically grown products. Independent supermarkets as well as large chains, such as Kroger and Giant Foods, are greatly expanding their programs to source and display "locally grown" produce. Small farmers may be able to improve their access to processors, retail stores, and other markets by joining or forming cooperatives that serve as the initial collection, sorting, grading, packing, shipping, and even processing points.

Contracting has become a common marketing option on farms of all sizes (AO May 1997). Farms with gross sales of less than \$250,000 made up 80 percent of the farms producing under marketing contracts in 1993, although they accounted for only 33 percent of the total value of production.

Almost half of the 225,000 farms with marketing or production contracts in 1993 were small farms with sales between \$50,000 and \$249,999. This group of small farms produced about 24 percent of the total contract value of farm products. Crop commodities comprising most of the value of marketing contracts for farms with smaller contracts (less than \$100,000 marketed) included field corn, soybeans,

peanuts, almonds, and wheat. Milk, cattle, and turkeys were the most often-reported livestock commodities for a similar marketing contract size.

Contracting is but one part of the movement to larger scale in agricultural production and marketing. The trend also includes mergers and vertical coordination, which, along with contracting, may have a greater impact on small farmers in some sectors than in others. Mergers in the cereal industry, or even in the flour milling industry, for example, probably have little direct impact on small farmers, who typically sell their grain to the nearest elevator. Mergers and consolidation among elevators would have a much greater potential impact on small farmers than mergers in the processing sector. As elevators consolidate, small farmers may have to haul their grain greater distances, incurring higher costs.

Vertical coordination in the beef industry could make it more difficult for small farmers to find buyers. Small farmers tend to sell their cattle or calves to other farmers, to feedlot operators, or through auction markets. If slaughtering firms integrate backward by acquiring feedlots, these packer-owned feedlots may prefer to obtain large, uniform lots of cattle from larger farmers.

In the processed fruit and vegetable industry, however, processors have for years obtained the majority of their raw product from larger growers under contractual arrangements. Further consolidation in this industry would likely have little impact on small farmers. Small fruit and vegetable farmers instead tend to serve the fresh segment of the market or sell to small local processors serving niche markets.

Despite some of the obstacles, small farmers can benefit from a combination of effective marketing, better access to credit, and targeted programs, as well as the ability to take advantage of government programs, including those promoting sustainable use of farm resources.

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## Farm Finance



Jack Harrison

## Stable Interest Rates, Ample Credit in 1998 & 1999

**R**ural and farm borrowers will benefit from increased credit availability and continued relative interest rate stability in 1998 and 1999. Enhanced credit availability will allow firms to more easily fund capital investment, which will boost rural competitiveness. Relatively stable interest rates will encourage farm investment by reducing the risk that capital costs will exceed expected returns.

In the first quarter of 1998, rates for farm nonreal estate loans from commercial banks averaged 9.1 percent, compared with 9.3 percent for 1997. In the 1990's, nonreal estate loan rates for farms have averaged 9 percent.

Interest rates that farmers and rural borrowers face are influenced by the level of interest rates in general as well as by individual loan risk and liquidity. National and global factors that affect credit demand and supply will in turn influence interest rates charged to rural borrowers. Domestic patterns of consumer savings and overall credit demand from businesses, homebuyers, and government all affect the general level of interest rates. In addition, U.S. interest rates in the 1990's have increasingly reflected flows of foreign capital into and out of U.S. financial markets.

Because commercial banks are the largest single category of lenders serving agriculture and small business, the availability and cost of bank loans to agriculture and rural small business is a key factor in rural growth. Surveys of large and small banks in 1998 indicate continued efforts by banks to expand business and farm lending—in part by maintaining low lending rate margins above their cost of funds for business loans. The Farm Credit System also appears very well capitalized and is willing to lend to creditworthy farm borrowers.

### *Bank Lending Rates Less Volatile in the 1990's*

Interest rates in the 1990's have displayed less volatility than in the previous two decades. Nominal interest rates have been less volatile in part because real interest rates have risen less during the current economic expansion than is typical in such periods, while inflation—along with inflationary expectations—has declined. Since the end of the 1990-91 recession, real growth in the economy has generally progressed at a moderate to moderately strong pace, with declining overall inflation.

Typically, interest rates rise during economic expansion as business investment

picks up in response to expected higher real returns on investment. As existing plant and equipment is used more intensely, businesses attempt to head off future capital shortages by increasing capital investments. In addition, high rates of utilization of capital and labor typically place upward pressure on inflation and inflationary expectations. Nominal interest rates rise as investors in fixed-income securities and fixed-rate loans demand higher interest payments to compensate for the increased risk of higher inflation.

Contrary to most expectations, annual inflation as measured by the GDP deflator fell between 1993 and 1997—from 2.8 percent to 2 percent. Lower inflation during this period has reflected stronger productivity growth from high levels of capital investment, a rising dollar since late 1995, corporate restructuring, and smaller increases in employee benefit costs.

Stability in bank lending rates in the current expansion has also been aided by monetary and fiscal policy. As a result, the Federal funds rate (the interest rate that depository institutions charge each other for use of their overnight bank deposits held at Federal Reserve Banks) has been much more stable in the 1990's than the 1970's and 1980's. The greater stability of the Federal funds rate, given its strong influence on other short-term interest rates, has reduced volatility in short-term rates. Bank loan rates are often tied to the bank's prime or directly to a measure of the bank's own cost of funds such as the Federal funds rate.

Also contributing to interest rate stability are declines in Federal deficit spending and a fall in real government spending since 1993, releasing additional funds to meet expanding private demand for credit. Loan demand by business firms at commercial banks has increased sharply since 1993, generated by the need to fund the strong growth in business investment. But despite sharply higher business and consumer loan demand, bank lending spreads (the difference between the bank lending rate and the bank's cost of funds) have fallen sharply for business loans since 1993.

Bank business lending spreads have fallen as borrower profitability and stronger balance sheets have reduced default risk.

## Farm Finance

Record bank profits and strong bank capital positions have reduced the overall costs of funding new loans and have lowered the compensation that banks require for bearing various levels of default risk. In addition, bank business lending faces increasing competition from nonbank lenders, such as finance companies, and from direct financing that occurs in the national and regional credit markets through the issuing of new bonds and equity securities.

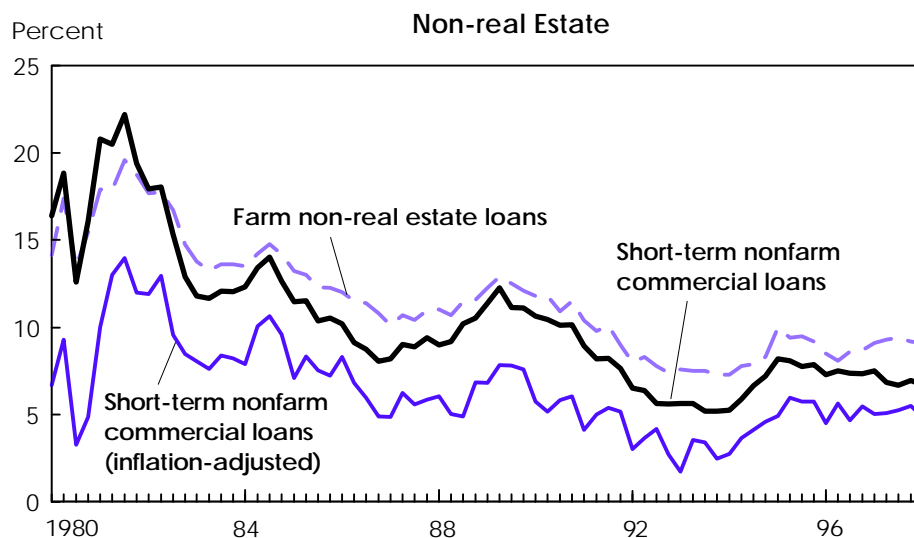
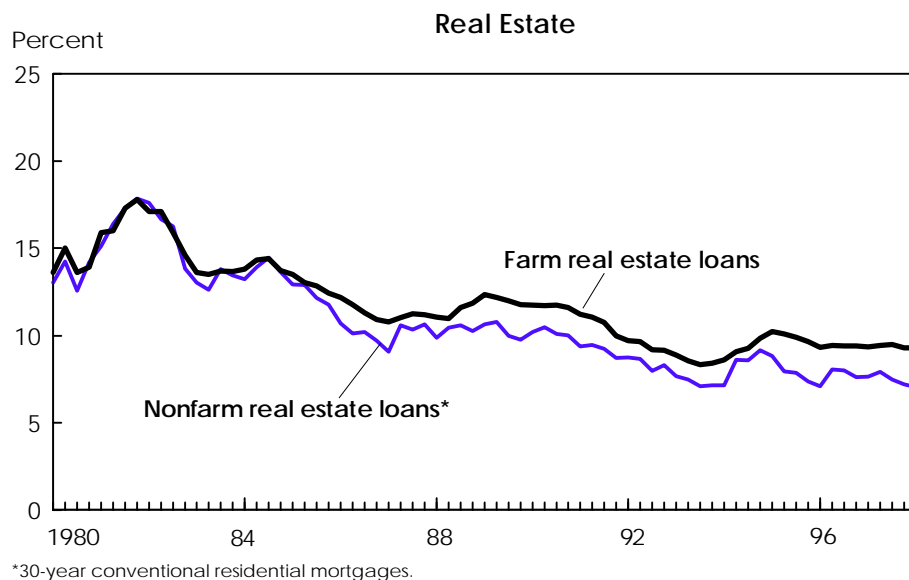
### Outlook for Bank Rates In 1998 & 1999

While interest rates are expected to continue to be relatively stable by historical standards in 1998 and 1999, some mild upward pressure on long-term rates is expected in the second half of 1998 and in 1999. Economic growth is likely to slow significantly in the second half of 1998 to more sustainable long-term levels under the weight of the Asian downturn, a very strong dollar, slower inventory accumulation, slightly slower growth in business fixed investment, and tight labor markets.

Moderate productivity gains, strong foreign competition, and lower oil prices (relative to 1997) should hold inflation to low levels. The combination of slower economic growth and continued low inflation is likely to leave monetary policy little changed in 1998 and 1999. Commercial banks and the Farm Credit System are both expected to aggressively compete for high-quality business and farm loans. Therefore, bank lending spreads for high-quality business loans are expected to remain narrow by historical standards.

The Asian currency and economic crises resulted in an increase in net foreign financial investment in the U.S., from \$207 billion in the second quarter to \$341 billion in the fourth quarter of 1997. As the Asian situation improves, this investment in the U.S. should slow, placing upward pressure on U.S. interest rates, especially longer-term interest rates. In addition, a mild increase in inflation is expected in the second half of 1998 and more notably in 1999 from continued tight labor markets and an expected mild depreciation in the U.S. dollar from current strong levels.

### Interest Rates Have Been Relatively Stable for Agricultural And Other Loans



Rates are nominal unless otherwise specified.

Economic Research Service, USDA

Any upward movement in farm or rural interest rates is expected to be smaller than any movement in general Treasury or most nonfarm lending rates. Rural banks are heavily dependent on consumer-type deposits, which respond sluggishly to changes in open-market interest rates. In addition, loan rates at rural banks typically respond more slowly to changes in open-market interest rates due to the greater importance of average cost-of-

funds pricing in determining their bank fund costs.

Finally, farm balance sheets have improved significantly since 1995, improving the quality of farm collateral (especially farm real estate). Lower farm debt-to-asset ratios further lower farm default risk. Rural business balance sheets have also improved significantly in recent years, lowering the risk of rural loan default overall.

### ***Interest Rate Stability: Impact on the Farm Sector***

Farm borrowers and lenders rely on expectations of future interest rates in making investment and financing decisions. The greater the degree of interest rate instability or volatility—referred to as interest rate risk—the greater the likelihood and magnitude of forecast error.

Farm lenders' exposure to interest rate risk depends mainly on how they structure their balance sheet. As with most financial intermediaries, the maturity of rural lenders' assets is for a longer term than that of their liabilities—they "borrow short and lend long." Should interest rates unexpectedly rise sharply, lenders' cost of funds would rise while returns on their loans would remain fixed. Their net margins and net worth would suffer as a consequence. This is especially true for small farm lenders for whom net interest revenues account for an especially large proportion of profits.

Lenders have learned to reduce their exposure to interest rate risk using numerous techniques such as derivatives (futures, options, and swaps), variable-rate loans, or increasing their reliance on

fee-generating services. But learning and applying these techniques raises the cost of lending to the rural community.

Stable rates allow lenders to try to "ride the (normal) yield curve," borrowing short at lower rates and lending at longer maturities with higher rates. Should rates remain stable over time, lenders can meet the maturity needs of both depositors and borrowers with considerably reduced risk. This classic function of a financial intermediary is limited when the lender tries to reduce interest rate risk exposure by constantly restructuring the balance sheet in a rapidly changing interest rate environment. In addition, stable interest rates reduce the need to learn and apply interest rate risk management techniques. This reduces the cost of lending to farmers and other rural borrowers and helps hold down the "risk premium" lenders add on to a loan's interest rate.

In addition, stable rates encourage the use of fixed-rate loans. Variable-rate loans decrease lender interest rate risk exposure at the cost of increasing borrower default risk. Fixed-rate loans have fixed cash outflows that allow borrowers greater certainty regarding their long-range interest expenses. Recent survey data have shown

increasing use of fixed-rate loans in agriculture. Greater reliance on fixed-rate loans as a result of the stable interest rate environment will reduce farmer and rural borrower default rates.

Stable interest rates reduce the uncertainty involved in long-range investment decisions, such as purchases or improvements to farmland. The interest rate needed in order to discount the future cash flows resulting from a proposed investment project can be predicted with more confidence in a stable rather than volatile interest environment. Hence, stable interest rates encourage farm investment and adoption of new technologies, allowing farmers to produce at lower costs and increase profit margins.

The downside is that, in the desire to increase lenders' profits by casting overboard the costs of risk management, the farm sector ship is left exposed to financial icebergs of sharply rising interest rates that might lie ahead. This was among the lessons learned by the farm financial community in the 1980's. *Paul Sundell (202) 694-5333 and Ted Covey (202) 694-5344*  
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**Upcoming in the June/July AO . . .**

***FARM CREDIT USE UP FOR 6TH STRAIGHT YEAR***

## Resources &amp; Environment



USDA

## Ag Productivity Continues Healthy Growth

**T**he agricultural sector has one of the highest rates of productivity growth among U.S. industries. Agricultural productivity increased at an average annual rate of 1.89 percent from 1948 to 1996. From 1990 to 1996, agricultural productivity increased 2.14 percent per year on average.

Productivity in the agricultural sector over 1948-96 exceeds the 1.3-percent rate for manufacturing—an industry considered to have relatively high productivity. Moreover, the increase in U.S. agricultural output was entirely the result of productivity growth. Output grew at an annual average rate of 1.8 percent, with real expenditures on inputs declining slightly—by about 0.1 percent. In contrast, output increases in many sectors of the economy were largely the result of growing expenditures on inputs. For manufacturing, which is second only to the services sector as an employer in nonmetro areas, only 40 percent of the increase in output growth came from productivity growth.

Productivity captures the growth in output not accounted for by the growth in production inputs. It is most commonly expressed as total factor productivity (TFP), a ratio of total outputs to total inputs, each measured as an index. An increase in the ratio

of total outputs to total inputs indicates that more outputs can be produced with a given level of inputs.

Increased productivity improves society's standard of living by producing products using fewer inputs. As productivity levels in one sector of the economy rise, resources are available for use by other sectors. The high levels of agricultural productivity have freed up resources such as labor that would otherwise have been used to meet the food needs of the population.

Increased productivity also improves the standard of living by lowering the real prices of goods and services. Agricultural productivity gains are passed on to the consumer in the form of lower food prices. Other sectors of the economy also have a large effect on food prices—agriculture's share of the food bill is only about 23 percent, with the rest accounted for by processing, packaging, and transporting and other marketing costs. The average annual productivity growth rate of 0.8 percent for "food and kindred products" for 1949-93 was well below agriculture's high levels.

As increased productivity lowers real farm prices, the international competitive

position of U.S. agriculture improves. High productivity has been a factor in making the U.S. the world's leading agricultural exporter and in sustaining the trade surplus enjoyed by U.S. agriculture despite a trade deficit for the U.S. overall. The share of U.S. agricultural production exported is more than double that of other major U.S. industries.

### *Trends in Farm Productivity, Input Use, & Output*

The period immediately after World War II, sometimes referred to as the "second American agricultural revolution," ushered in some key technological changes in the sector. This period saw completion of the transition from animal to tractor power and the application of science to farming: use of hybrid seeds, adoption of improved livestock breeding, and the use of more agricultural chemicals, both fertilizers and pesticides. Adoption of many of the practices required additions to the capital complement of farming as well as the development of specialized information systems. Technological developments over the period have allowed agriculture to increase production while using inputs more efficiently.

The 1.8-percent average annual growth in farm output over 1948-96 combines a 1.66-percent average rate of growth for livestock products and a rate of 1.84 percent for crops. While cattle and other meat animals represent the largest component of livestock output, poultry and eggs grew the fastest (3.58 percent vs. 1.23 percent for meat animals). Dairy output during 1948-96 grew less than 1 percent per year on average.

Annual output growth rates for crops over 1948-96 have been more variable than for livestock, largely reflecting variation in crop yields in response to weather. The late 1940's through the 1960's, characterized by unusually mild weather, saw unusually stable crop yields. In contrast, weather since the 1970's has returned to the more usual, variable conditions, including the extremes of high temperatures, drought, and early frost in 1983, drought in 1988, and extensive flooding in 1993.

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Events other than weather have contributed to variation in overall output growth. In the 1970's, with export demand strong, the average annual rate of growth in agricultural output was 2.25 percent per year. As short-lived concerns over food scarcity in the 1970's gave way to expectations of chronic surpluses in the 1980's (and subsequent farm policy to limit field crop output), output growth slowed to 1.68 percent annually.

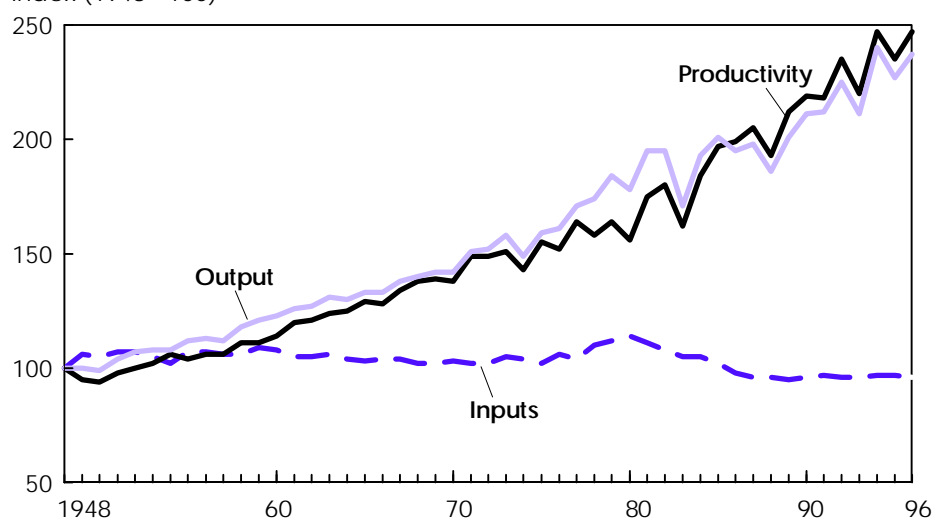
Total agricultural *input* use has been fairly stable over much of the period. The highest annual growth rates in input use occurred in the late 1970's. For 1990-96 overall, increases in use of capital (e.g., equipment) and in intermediate inputs (e.g., chemicals, energy, and seed) have been more than offset by a decline in labor input. The measures of input use in agriculture account not only for changing quantities but also changing qualities of major inputs. For example, labor input considers not only the hours worked in agriculture, but the quality of those hours as measured by such characteristics as educational attainment of the workers.

The fairly stable total input level over 1948-96 masks differences among particular inputs. For example, intermediate inputs increased 1.25 percent per year over the period, but energy inputs increased less than 0.9 percent, and pesticides, the fastest growing input category, increased more than 6 percent per year. Synthetic pesticides were just beginning to be used in the late 1940's. By the early 1970's, a significant share of acres in major crop production was being treated. Since the early 1980's, the mix of pesticides has changed considerably. Most notably, pesticides have changed in terms of their ability to kill selected target pests and in their effects on the environment and human health. The pesticides index captures the changing quality as well as the quantity of pesticides.

Labor input in agriculture decreased consistently over 1948-96. In 1948, 7.6 million people were employed in agriculture, compared with 2.9 million in 1996. While the number of workers employed in agriculture and the total hours worked have declined, the quality per hour worked has increased. For example, in 1964, only about one-third of all farmers

### Productivity Continues To Be the Engine of Growth in Agriculture

Index (1948 = 100)



Economic Research Service, USDA

had completed high school, compared with more than three-quarters of farmers by 1990. The labor input index, which accounts for both number and quality of hours worked, dropped at an average rate of 2.51 percent per year. Adjustment for gains in labor quality lowers the rate of decline in the labor input index.

On an annual basis, *productivity* growth rates were generally positive during 1948-96. Through the mid-1950's, however, productivity growth was very slow, and at times even negative, as capital and intermediate inputs increased at very high rates, capturing the rapid movement toward mechanization on U.S. farms. Productivity growth was fairly stable through the 1960's. During the 1970's, demand for U.S. exports increased significantly, and many U.S. producers geared up to meet the demand. The average annual rate of growth in productivity during the 1970's, however, was considerably less than in the 1960's, since nearly half of the output growth over this period was accounted for by increased inputs. Growth in intermediate inputs increased 2.5 percent per year on average during the 1970's.

As the sector went through financial restructuring in the 1980's, capital (equipment and land) and intermediate inputs declined, with negative growth rates observed in all major input categories

except pesticides. Land area idled in 1983 totaled 80 million acres as a result of acreage reduction and Payment-in-Kind programs. Growth in output averaged only 1.68 percent in the 1980's, but the decline in inputs resulted in fairly high rates of growth in total factor productivity. The 1990's saw a continuation of above-average rates of growth in productivity. Output growth was above average from 1990 to 1996, with input growth, while slightly negative, not as low as in the 1980's.

U.S. productivity growth rates mask variations across States. Over 1960-93, average annual TFP growth in the 48 contiguous States was approximately 2 percent. Most States with TFP growth rates higher than 2 percent were located in the eastern U.S.—the exceptions were the Northwestern States (Washington, Oregon, and Idaho), Utah, and North Dakota.

Five New England States experienced negative rates of growth in real output over the time period. About three-quarters of the 48 contiguous States experienced negative growth rates in input use, the same as the aggregate U.S. trend. Interestingly, most of the top 10 producing States, when ranked by value of farm marketings, did not have TFP growth rates above the U.S. level. USDA's Economic Research Service is currently

## Resources & Environment

investigating the reasons for variations in TFP levels by State and is separating productivity into its components—efficiency, technological change, and scale effects.

### What Affects Agricultural Productivity?

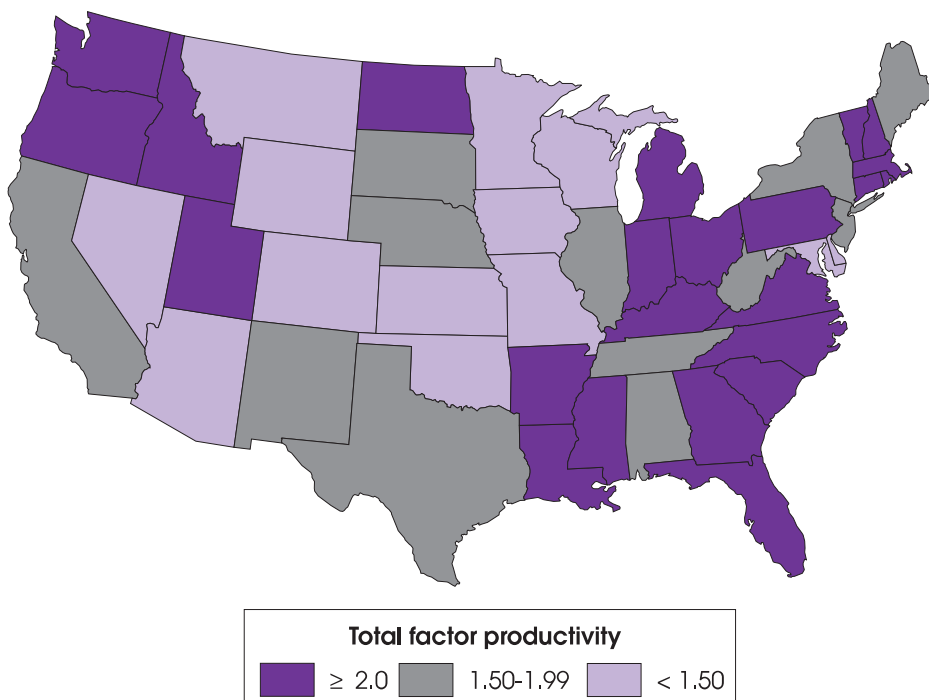
Productivity gains over 1948-96 are the result of an array of factors that include weather, the economy, and public and private investment. Weather is a major, unpredictable external factor in year-to-year productivity. Shocks to the general economy, because they affect relative prices, can in turn affect resource allocations in agriculture. Pressures on relative prices are often cited as an important source of technological innovation in agriculture, through a mechanism known as the “induced innovation concept.”

For example, increases in the price of labor relative to the price of capital may induce farmers to substitute more capital for labor. A change in relative prices may also induce private firms (for example, farm machinery companies) to develop new technologies that save on the relatively more expensive input. Economic research has shown that induced innovation forces are particularly strong for inputs that are actively traded, such as fertilizer, but less so for inputs that are less actively traded, such as land.

The social science literature has identified five factors as the key sources of productivity change in agriculture that have implications for public policy. The five are research and development, extension, education, infrastructure, and government programs. Productivity measures provide no information about the separate role of each of these factors. However, an understanding of these factors is of interest because of their potential impact on the components of productivity, and because of the impact of productivity growth on a society's standard of living.

**Research and development.** Agricultural research is essential not only to increase agricultural productivity, but to keep productivity from falling. For example, yield gains for a particular plant variety tend to be lost over time as pests and diseases evolve that make the variety susceptible to attack. Thus, a large share of agricultural

### States With Highest Farm Productivity Growth Rates Are Concentrated in the Eastern U.S.



Compound annual average growth rates for total factor productivity, 1960-93.  
Economic Research Service, USDA

research expenditures is devoted to maintenance research. The results of agricultural research, in addition to higher yielding crop varieties, include better livestock breeding practices, more effective fertilizers and pesticides, and better farm management practices.

Farmers benefit from agricultural research in the short run because of lower costs and higher profits. The longrun beneficiaries of agricultural research are consumers, who pay lower food prices. Agricultural research also helps the U.S. maintain its competitiveness in world markets.

Agricultural research is performed by both the private and public sectors. Private-sector research focuses mainly on farm machinery, agrichemicals, and food processing. Previous economic analyses have shown that both public and private research have positive effects on agricultural productivity, with public research having a greater impact than private research, particularly in the long run. A number of studies have measured the impact of public agri-

cultural research on productivity and the benefits of public agricultural research relative to the costs. Most studies have found rates of return to public investment of 20 percent to 60 percent.

Private research expenditures have increased dramatically during the past three decades and now surpass those of the public sector. By contrast, the rate of growth in public research expenditures has slowed significantly since the mid-1970's, although demands on agricultural research have expanded to include environmental protection and food safety. There is some evidence that public investment in research increases the amount of private research. To the extent that public research stimulates private research, the returns to public research are underestimated.

**Extension.** The agricultural production extension system is aimed at reducing the time lag between the development of new technologies and their adoption. A particular research project may take several years to complete, and it takes time for

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farmers to learn of the innovation. Extension agents disseminate information on crops, livestock, and management practices to farmers, and demonstrate new techniques as well as consult with farmers on specific production and management problems. Extension, unlike research, can have an immediate effect on productivity.

Public extension expenditures have grown little in real terms since 1980. The Federal share of public extension expenditures has fallen steadily during the past few decades. The bulk of extension services is now provided by State and county governments. In some cases, the private sector also provides information to producers on new practices and technologies such as pest and nutrient management practices. Farmers may also consult farmer cooperatives or chemical company representatives for such advice. Empirical evidence on the rate of return to extension is more mixed than for research, with estimates ranging from 20 percent to over 100 percent.

**Education.** Education is an investment in "human capital" analogous to a farmer's investment in physical capital. In contrast to the more applied focus of extension activities, education provides individuals with general skills to solve problems. Farmers who have more education may be better able to assess and successfully adapt the new technologies. Current measures of labor input account for the changing educational attainment of the farm workforce over time.

**Infrastructure.** The most obvious example of how public investment in infrastructure might affect agricultural productivity is public transportation. An improved highway system can, for instance, reduce farmers' cost of acquiring production inputs. The decline in overall U.S. productivity in the 1970's was perhaps due in part to declining rates of public capital investment (e.g., highways and streets, water and sewer systems, schools, hospitals, conservation structures, mass transit, etc.). There is evidence that a significant positive relationship exists between infrastructure and U.S. agricultural productivity, although little work has been done to examine the relationship.

## Farm Productivity in the 1990's Is Above Average

Index	1948-60	1960-70	1970-80	1980-85	1985-90	1990-96	1948-96
<b>Output</b>	1.68	1.48	2.25	2.40	0.97	2.01	1.80
Livestock	2.45	1.62	0.95	0.82	1.33	2.28	1.66
Crops	1.02	1.29	3.20	3.40	0.65	1.81	1.84
<b>Inputs</b>	0.67	-0.48	1.00	-2.28	-1.07	-0.13	-0.09
Intermediate	2.97	1.01	2.47	-2.95	0.33	0.45	1.25
Fertilizer	4.01	1.26	4.73	-5.73	-2.29	-1.46	1.23
Pesticides	11.40	8.68	5.98	0.26	1.44	2.68	6.42
Energy	1.96	1.16	1.85	-4.07	0.42	0.66	0.82
Feed, seed, livestock	2.20	1.59	2.05	-1.95	0.11	-0.64	1.03
Labor	-3.33	-3.36	-2.62	-2.56	-1.27	-0.28	-2.51
Hired	-2.85	-3.71	0.20	-4.46	-1.03	0.00	-2.02
Self-employed	-3.48	-3.27	-3.61	-1.93	-1.31	-0.63	-2.72
Capital	3.22	0.28	1.40	-1.52	-2.57	-0.88	0.62
Durable equipment	4.90	1.28	2.63	-3.47	-5.59	-2.78	0.75
Real estate	0.77	-0.53	0.66	-0.83	-1.26	-0.31	-0.04
Inventories	2.03	1.62	1.96	-1.22	-2.20	1.22	1.05
<b>Productivity</b>	1.00	1.96	1.25	4.68	2.04	2.14	1.89

Compound average annual growth rates for indexes of agricultural output, inputs, and total factor productivity.  
Economic Research Service, USDA

**Government programs.** Government programs affect productivity through the allocation of resources. Farm programs are perhaps the best known example of government involvement in agriculture. Current farm programs generally allow market forces to allocate resources (e.g., amount of land planted to certain field crops), which economists contend is the most efficient method. Tax policy may encourage private firms to invest in innovations and may encourage farmers to adopt the innovations. Enhanced protection of intellectual property rights may increase incentives for private firms to engage in private agricultural research. Regulatory policies affect the rate at which new livestock drugs and farm chemicals reach the marketplace.

Relatively little research has investigated the impact of government programs on agricultural productivity, but some observe a significant positive relationship. For example, high farm prices can encourage substitution of improved capital inputs for labor and increase the rate of new technology adoption. On the other hand, government subsidization of any one sector can have a negative impact on other sectors in the economy.

## Prospects &amp; Uncertainties

Research, extension, education, infrastructure, and government programs will continue to affect the productivity of U.S. agriculture. The magnitude of their effects is uncertain because the relationships between these factors and productivity are still not well understood and because of the uncertainty surrounding the level at which society will invest in these growth sources and programs.

Also uncertain is how the agricultural sector will adjust to the planting flexibility provisions of the new farm law, designed to make U.S. agricultural production more market-oriented. While it is still too early to determine, the experience of the 1980's may provide a clue. In that period of economic turbulence in the agricultural sector, U.S. farmers demonstrated a capacity to adjust to changing economic conditions. The question is still open as to whether greater flexibility to adjust production to market signals will result in enhanced productivity.

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## Special Article

## The Future of Brazil's Agricultural Sector

**B**razil, the fifth largest country in area and population, is one of the world's agricultural giants, and is among the few countries that have the potential to significantly increase agricultural area as well as yields. But in order to realize its full production potential, Brazil's agricultural sector will depend on the continuation of reforms aimed at privatizing the economy, reducing the budget deficit, and controlling inflation.

The Brazilian agricultural sector is both large and diverse. Brazil is one of the world's largest producers of grains and oilseeds. It ranks among the top three soybean and corn producers in 1997/98, and is the largest producer of rice outside Asia. It is among the world's leading producers of beef and poultry, tobacco, bananas, and cocoa, and leads in production of coffee, sugar, and citrus.

Brazil's economy is the largest in South America, with a gross domestic product (GDP) estimated at \$843 billion in 1997. Brazil is a major player in world agricultural trade. It is a key exporter of soybeans, soymeal and soy oil, poultry, and beef. Its population and income level also make it one of the world's largest consumers and importers of agricultural commodities.

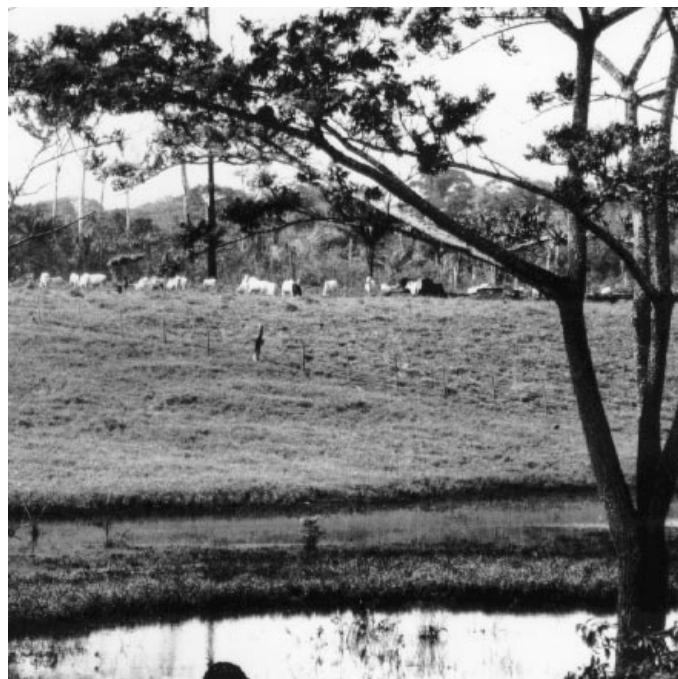
The government has made significant progress in restructuring the economy since launching the economic stabilization program known as the Real Plan in mid-1994 aimed at controlling rampant inflation. Hallmarks of the plan are more market orientation, privatization of government-owned industries, lower tariffs, tight credit, "de-indexation" of prices, and a new, stable currency—the real. USDA's baseline projections of Brazil's production, consumption, and trade of major agricultural commodities from 1998 to 2007 assume successful continuation of the country's reform program.

### *How Successful Are Brazil's Economic Reforms?*

Since the Real Plan took effect, the economy has experienced positive real GDP growth every year. The economy has grown by 10 percent in inflation-adjusted terms since the Real Plan was implemented and by 4 percent in 1997 alone.

But the most impressive outcome of the plan has been to arrest the crippling inflation rates of the early 1990's. The inflation rate for the month of June 1994 alone had peaked at almost 50 percent, while the rate for the entire year of 1997 is estimated to have been only 7.5 percent—reaching single-digit levels for the first time in decades. This was accomplished by instituting a tight credit policy while opening the market to foreign competition and "de-indexing" prices. High interest rates have succeeded in attracting the capital inflows needed to stabilize the exchange rate while helping to rein in expanded demand that followed the decline of inflation.

Despite nearly 4 years of lower inflation and an expanding economy, Brazil has yet to make the fiscal and administrative



Ghada Abiad-Shields

reforms needed to lock in these improvements. The stabilization program itself has not been without problems. The trade balance went from a surplus of over \$10 billion in 1994 to a deficit of almost \$9 billion in 1997, and the current account deficit grew from \$1.9 billion in 1994 to an estimated \$26 billion in 1997. The deterioration of the trade balance is largely a function of lower import tariffs and an overvalued currency relative to the U.S. dollar.

The growing deficit is a concern particularly because of the shadow cast by events in Mexico and Southeast Asia, where foreign investors pulled out their money because of lack of confidence in the economies. While a similar run on the national currency cannot be ruled out for Brazil, the country's high interest rates continue to attract a large volume of foreign capital inflows, which help support the exchange rate. The current account deficit is being comfortably financed by a combination of foreign direct investment and long-term debt, and in the short term it should remain manageable. In the long term, the government must achieve significant fiscal and administrative reforms, including overhauling the tax system and reducing the government's payroll and pension obligations.

Two measures taken late last year demonstrate Brazil's political will to defend the value of the real, consolidate some of the gains made over the last 4 years, and tackle the large public-sector deficits. In November 1997, the government implemented

Weights of commodities are in metric tons.

1 hectare = 2.47 acres

## Brazil's Agricultural Potential

Brazil's agricultural sector is the country's largest employer. Most of the growth in agricultural output during the last 10 years has come in the form of productivity gains, as farmers adopted new technologies and lowered costs in order to deal with competitive pressures caused by real exchange rate appreciation, the opening of markets to international or regional competition, and rising real wages. Higher yields have resulted from improved seed and pest control management and increased use of fertilizer and irrigation. A trend toward greater mechanization has reduced labor needs. The share of the labor force in agriculture has dropped from 37 percent in 1980 to an estimated 25 percent in 1996.

The land in agricultural use is approximately 230 million hectares, or about 27 percent of the country's total land area of 845 million hectares. Of this, pasture accounts for the bulk, about 170 million hectares. Of the remaining 60 million hectares of arable agricultural land, about 52 million hectares are planted to annual crops, of which grains and oilseeds make up about 60 percent, or 32 million hectares.

There is potential for more land being drawn into use for agriculture in the undeveloped Cerrados or savannah region of central Brazil. The loosely defined Cerrados accounts for between 180 and 207 million hectares, of which only about 10 million is currently planted to field crops, primarily soybeans. Pasture accounts for between 35 and 45 million hectares, with another 2 million in permanent crops (e.g., citrus).

The land in the Cerrados is fairly flat with sparse cover, mostly grasses and brush. The topography makes it easy to

clear and suitable to heavy machinery, but the soil needs heavy applications of fertilizers and lime due to its low fertility and high acidity. Nevertheless, yields in the Cerrados are above the national average. Rainfall during the soybean growing months is considered more than adequate and consistent, and drought is rare. Land is plentiful and, at the moment, fairly affordable.

But it will take a significant expansion in the transportation infrastructure and remunerative prices for the Cerrados to be fully exploited. Most of the unexploited land is far from the ports and consumption centers, which means prohibitively high transportation and marketing costs. Should the infrastructure be built, however, some analysts believe that area to crops could increase between 5 and 12 million hectares in the medium term (5 to 10 years) with long-term potential for expanding crops onto an additional 60 million hectares—an area equivalent to the total land currently planted to corn and soybeans in the U.S.

Future growth in Brazil's food consumption will be driven mainly by increased income, as population growth has slowed dramatically over the last 30 years. Brazil's population is expected to grow annually by less than 1 percent over the next 10 years, reaching 180 million by 2007. The continued migration from the countryside to the cities, coupled with strong income growth in the future, will cause major changes in the consumption patterns of the average Brazilian, some of which are already in evidence.

a new program to reduce the budget deficit, including tax hikes, budget cuts, reductions in fiscal incentives, and public-sector job cuts. The new program came on the heels of an earlier decision to significantly increase interest rates in order to stem any currency and asset outflows the Asian crisis might trigger. As a result, Brazil's economy is expected to grow by only about 1 percent in 1998 compared with the 4.4 percent forecast earlier.

USDA's baseline projections for Brazil assume that the effect of the Asian crisis on the Brazilian economy will be short-lived, that public sector reform will continue, and that inflation will remain under control. Given these assumptions, real GDP is expected to increase by 3 percent in 1999 and grow by about 4.8 percent annually between 2000 and 2007. The nominal exchange rate is expected to continue to depreciate by about 9.7 percent per year over the projection period. In real terms, the exchange rate is expected to be about 1 percent stronger versus the dollar by 2007.

### *Agriculture Has Benefited From Reform Measures*

The impact of the Real Plan on Brazil's agricultural sector appears to have been positive. The Central Bank of Brazil estimates that the agricultural sector grew by 5 percent in 1997 to US\$102 billion. Nevertheless, the Real Plan has apparently not

yet eliminated a perennial problem for the Brazilian producer—a shortage of available credit.

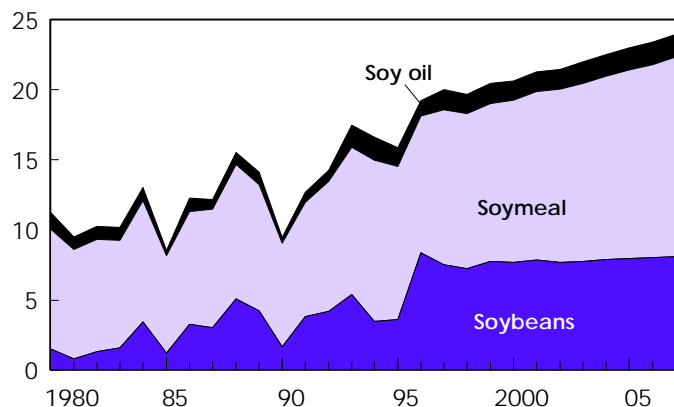
While most producers welcome the end of runaway inflation, those carrying large debts have lost the advantage of having the principal reduced by inflation. Moreover, because the government has reduced funding for subsidized credit, producers are finding it harder to roll over their debt. Interest rates, while high, have dropped, and rates for the agricultural sector are lower than market rates. But banks have become more selective when making new loans.

For most producers, future planting decisions will now be made on the basis of market prices, whereas before the Real Plan the government was a major buyer, distributor, and holder of many agricultural commodities (particularly in the grain sector). The government has gradually removed itself from direct management of markets, no longer buying all the national production of certain products at a minimum guaranteed price and then distributing it to millers and other buyers. It has also gradually eliminated its large grain stocks through periodic open auctions. Except under a few government loan programs, producers no longer will be allowed to deliver commodities to the government in lieu of cash payment.

## Special Article

### Brazil's Exports of Soy Products To Continue To Surpass Soybeans

Million metric tons



1997 preliminary; 1998 forecast; 1999-2007 projected.  
Economic Research Service, USDA

Possibly the most significant event for farmers since implementation of the Real Plan was the law eliminating the state sales tax (ICMS) on primary and semimanufactured exports. Removal of the ICMS tax in September 1996 had the greatest impact in the soybean sector, eliminating the tax advantage enjoyed by crushers who export soybean meal and oil over exporters of unprocessed soybeans. The change resulted in a significant increase in soybean exports, which reached a record 8.3 million tons in 1996/97.

Exports of agricultural commodities have played a critical role in stemming Brazil's growing trade deficit. Between 1994 and 1996, the agricultural sector contributed \$25.3 billion to the trade balance, or an average of \$8.4 billion per year.

The government has increased the availability of credit for exports by providing interest rate guarantees to commercial banks that finance export sales, ensuring access to financing at rates equivalent to those available internationally. Exporters are also able to acquire international financing by forward-selling commodities through the Advancement of Exchange Contract (ACC) program, as long as the commodities are exported within a specified period, usually 180 days.

### Reforms To Boost Exports Of Soybeans & Products

Brazil ranks as the world's largest exporter of soybean meal and the second-largest exporter of soybeans and soy oil. Soybeans and products account for the largest share (26 percent) of Brazil's agricultural exports, bringing in about \$4.4 billion in 1996 alone. Over the next 10 years, the soybean sector is projected to be the greatest benefactor of the Real Plan, as a stable economy and low inflation help stimulate investment in transportation and marketing infrastructure, opening the way for expansion of production in the Brazilian frontier.

Already, soybean producers are responding to the new opportunities. In 1997/98, soybean area is forecast to have grown by 9 per-

cent, reaching a record 12.9 million hectares and surpassing corn area for the first time in history. Removal of the ICMS tax helped account for the increase. The USDA baseline projects soybean area to remain above corn area, growing about 1.7 percent per year from the average level of 1995/96-1997/98, to over 14 million hectares by 2007. Some analysts believe this figure could be much higher, given the potential for expansion into the relatively undeveloped "Cerrados" or savannah region of central Brazil.

Soybean yields are expected to continue to rise throughout the projection period by an average of 1.7 percent per year from the 1995/96-1997/98 average. By 2007, annual production is expected to be almost 11 million tons greater, reaching 38 million tons.

Exports of soybeans in 1997/98 are expected to drop by 10 percent from the all-time high of the previous year to 7.5 million tons, still the second-highest amount on record. While the elimination of the ICMS taxes has resulted in more soybean exports, crush levels have seen little decline, as production of soybeans increased dramatically (by almost 25 percent between 1995/96 and 1997/98) and crushers have increased their imports of soybeans.

USDA projects that the bulk of soybean sector exports during the baseline period will continue to be in the form of products, although the processing industry is expected to crush a slightly lower proportion of total production. All exports of soybeans and soy products are expected to grow during the baseline period—soybeans to 8.1 million tons in 2007, soybean meal to 14.3 million tons (from 11.1 in 1997), and soy oil to 1.6 million tons (from 1.4 in 1997).

### Imports of Grains Also Expanding

In addition to being one of the world's largest producers and exporters of agricultural commodities, Brazil is among the world's largest importers of grains. *Wheat* is the most important grain imported, accounting for 74 percent of grain imports during 1992/93-1996/97. During this period, Brazil has had to rely heavily on imports, with less than 30 percent of consumption coming from domestic production. This was not always the case. During the late 1980's, Brazil was producing most of the wheat it consumed. In 1987/88, when wheat production in Brazil reached its peak of 6.1 million tons, 86 percent of consumption came from domestic sources. By 1995/96, production had dropped to 1.5 million tons, as producers consistently had difficulty obtaining subsidized credit, and as production costs increased while guaranteed purchase prices had decreased.

USDA's baseline projections are not intended to forecast the future, but rather to construct a picture of Brazil's agricultural sector under a set of specific assumptions and outcomes. The results are the product of many approaches, including modeling and expert analysis, and are predicated on the assumption that Brazil's current macroeconomic and agricultural policies continue through the projection period. This assumes that the government can continue to support the Brazilian currency and to continue its commitment to the reform program.

The situation has improved somewhat since then, and the 1997/98 wheat harvest has been pegged at 2.8 million tons. Still, this is far short of the government's announced goal of 50 percent self-sufficiency. Projections are for land devoted to wheat to continue to decrease, although at a much slower rate than during the previous 10 years, as areas not suited to the high-quality wheat demanded by millers and consumers shift into other crops. Yields, which increased by only 0.5 percent per year on average over the last 10 years, are expected to grow at a more rapid pace (1.5 percent) due to greater use of improved seeds. Still, output will be unable to keep up with demand, and Brazil is projected to be importing close to 7 million tons of wheat by 2007.

*Rice* is the principal grain produced for human consumption in Brazil and is grown in every state in the country. It has traditionally been the primary food grain consumed in Brazil and remains, along with beans and cassava, one of the main staples of many Brazilians, particularly those in the lower income groups. Recently, however, per capita rice consumption has dropped slightly, as those in higher income groups switch to wheat-based products (breads and pastas) while those in the lower income groups use their increased purchasing power to consume more meat and less of the traditional staples.

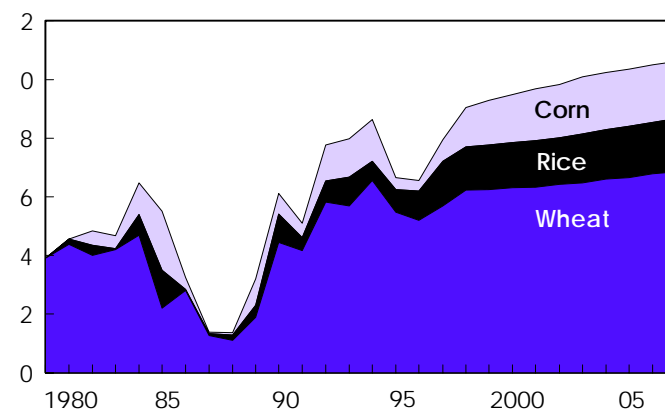
Given the rate of income growth assumed in the baseline, per capita consumption of both wheat and rice is projected to increase, but the wheat increase will be greater, making it the dominant grain consumed. Nevertheless, Brazil is expected to continue to be a major importer of rice, and in some years the world's largest importer.

Area of rice harvested has been steadily decreasing since the peak of 6.5 million hectares in 1979/80. Area in 1997/98 is forecast to be about 3.6 million hectares, although production, estimated at 6.5 million tons, is almost identical to that of 1979/80. The production levels were maintained, in part, because the drop in area has been in dryland production, while area under irrigation has increased, improving average yields. Future increases in irrigated rice may be rare, however, as investment is shifting to Argentina and Uruguay where land costs are lower and yields higher. As partners of Brazil under MERCOSUR, these countries can ship their rice to Brazil duty-free and have already dramatically increased their rice exports to Brazil. While rice yields will continue to increase modestly in Brazil, production is not expected to keep up with consumption, and imports are projected to increase to 1.8 million tons by 2007 from 1 million in 1998.

*Corn* is the major grain produced in Brazil, primarily for the poultry and pork industries. As with rice, it is grown in every state and has shown in recent years impressive gains in yields. Brazilian corn yields jumped by over 30 percent between 1990 and 1992 to 2.36 tons per hectare, and in 1997/98, yields were 2.62 tons. As a result, Brazil has been able to increase production and decrease imports while area contracted slightly. Corn has had a difficult time competing for area due to the higher profitability of soybeans and the fact that financing for soybeans is more readily available through the government's export financing programs.

## Wheat Is Brazil's Largest Grain Import

Million metric tons



1997 preliminary; 1998 forecast; 1999-2007 projected.

Economic Research Service, USDA

Competition between corn and soybeans is expected to remain strong, keeping corn area from expanding significantly. Corn yields are projected to increase about 2 percent per year, surpassing 3 tons per hectare by 2005 and leading to production of 42.6 million tons by 2007. Growth in demand for corn by the livestock sectors is also expected to remain strong. As a result, imports are projected to expand to almost 2 million tons by 2007, from 750,000 in 1997/98.

## Brazil Expected To Remain A Net Exporter of Meats

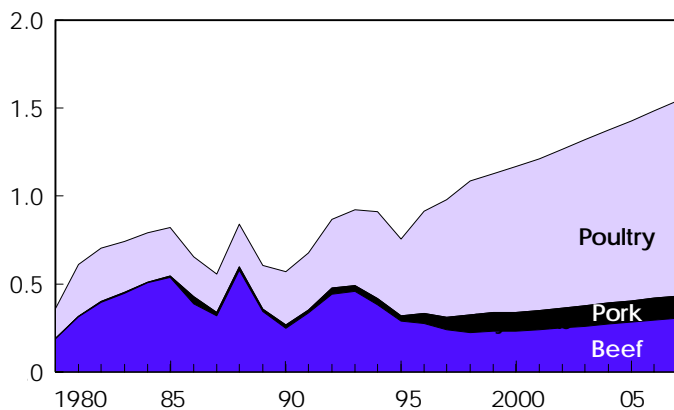
Brazil is the world's third-largest *poultry* exporter, shipping its product to about 40 countries, with almost 50 percent going to two countries—Saudi Arabia and Japan. Poultry meat exports have been among the fastest growing of Brazil's export commodities. The poultry industry has expanded production every year since 1985, and output is expected to reach 6.7 million tons by 2007, a 50-percent increase over the 4.4 million tons produced in 1997. Exports grew by an impressive 34 percent in 1996 alone, exceeding 500,000 tons for the first time. Exports are forecast to reach 740,000 tons in 1998 and to surpass 1.1 million tons by 2007.

The industry is currently expanding beyond the traditional poultry regions of the south and southeast and into the center-west region of the country, which is the corn/soybean belt. The states in this region are trying to encourage more industry with tax incentives and financing, and in some cases even providing land for processors to construct facilities. Most of the expansion is planned to be self-sustaining and vertically integrated from feed mill through breeding facilities, hatcheries, and processing plants. The additional costs of transporting the product to consumers will be largely covered by savings on feed costs. Most of the production from the center-west is apparently destined for the growing domestic market.

## Special Article

**Brazil's Poultry Exports To Exceed 1 Million Tons By 2007**

Million metric tons



1997 preliminary; 1998 forecast; 1999-2007 projected.

Economic Research Service, USDA

If exports are to increase, the industry must keep ahead of local demand, which grew by an impressive 10 percent per year between 1985/86-1987/88 and 1995/96-1997/98. Per capita consumption of poultry is expected to grow from about 23 kg in 1997 to 30 kg in 2007.

Despite this impressive growth in poultry consumption, *beef* remains the meat of choice for the Brazilian consumer (36 kg per person in 1997) with *pork* (9 kg) a distant third. Per capita beef consumption is projected to grow to 39 kg by 2007, with pork increasing to 11 kg. By 2007, Brazil's per capita meat consumption is expected to exceed 80 kg, very close to that of the region's largest meat consumer in per capita terms, Argentina.

Brazil has the second-largest beef herd in the world after China and was the third largest beef producer in 1997 after China and the U.S. Like Argentina, Brazil's beef is grass-fed, making the sector heavily dependent on extensive pastures. Finishing cattle in feedlots is not widely practiced, although it is on the rise. Since 1980, beef production has been expanding at a relatively steady rate of about 4 percent per year. Future growth will depend on structural adjustments in production and a more efficient marketing system, as competition from both poultry and pork has intensified. Brazil is in the process of genetically improving its beef herd through crossbreeding, while attempting to reduce the slaughter age by improving weight gain. Current projections are for beef production to increase to 7.2 million tons by 2007, or by about 2 percent per year.

Beef exports have decreased in recent years, dropping to an estimated 240,000 tons last year, the lowest since 1980. The decline is considered to be a combination of numerous factors, including the demand-depressing effects of the BSE outbreak in Europe (the European Union had accounted for about 60 percent of Brazil's exports), the overvalued Brazilian currency, and strong international competition. Current estimates are for exports to rebound slightly in 1998 and to once again surpass 300,000 ton

by 2007. Brazil is anticipating that two of its southern states will obtain status by May 1998 as areas free of foot-and-mouth disease. The Brazilians see this as an opportunity to begin exporting unprocessed beef to Asia and to bring exports up to par with the record 580,000 tons reached in 1988.

The pork sector has also experienced steady growth, and the long-term prospects for pork production in Brazil are assumed to be good. Like the poultry industry, the pork industry is highly integrated and is expanding into the center-west region due to the combination of state incentives and proximity to grain and soybean production. Pork production is expected to increase by 3.3 percent per year over the projection period, reaching 2.1 million tons by 2007, while exports are projected to expand to 125,000 tons, more than double last year's level.

**The Tasks Ahead**

The overall effects of Brazil's reforms on the agricultural sector are mixed. Growth in production and exports have been strong, but the sector remains highly indebted and credit is tight. In order to be more competitive in an open-market economy and realize its full production potential, the Brazilian agricultural sector will have to depend on further macroeconomic reforms to bring down high domestic interest rates. In addition, Brazil's expensive inland transportation system, where most products move by truck and not rail or barge, will have to be improved, as will its ports, which currently levy excessive charges on exports.

The Brazilian government and private sector are currently undertaking a number of infrastructural projects to improve the transportation and port systems. With recent completion of the Northwest Corridor project, soybeans grown in part of the Cerrados region can be trucked to a port on the Madeira River and then barged to the Amazon River for loading on an ocean-going vessel. Transport cost savings are estimated as much as \$30 per ton via this route, compared with trucking the beans to ports in the center-south region. A host of other transportation improvements are underway to link the Cerrados region via road, river, or rail to river and ocean ports. Such improvements will also lower the costs of imported goods like lime and fertilizers.

The hyperinflation that plagued Brazil in the recent past has been controlled, and the economy has been significantly opened to market forces. However, the stabilization program is still incomplete and problems remain, particularly in Brazil's external accounts. Further reforms may be necessary to avoid a financial crisis that precipitates a run on the Brazilian currency and repeats the recent experience of Southeast Asia.

For many years, Brazil was viewed by economists as a country where enormous risks were outweighed by tremendous opportunities. In recent years, Brazil has made huge strides toward eliminating many of those risks.

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# Statistical Indicators

## Summary Data

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

	Annual			1997			1998			
	1996	1997	1998 F	II	III	IV F	I F	II F	III F	IV F
Prices received by farmers (1990-92=100)	112	107	--	108	107	106	--	--	--	
Livestock & products	99	99	--	99	99	97	--	--	--	
Crops	126	115	--	117	115	113	--	--	--	
Prices paid by farmers (1990-92=100)										
Production items	115	116	--	117	116	115	--	--	--	
Commodities and services, interest, taxes, and wages	115	116	--	117	116	116	--	--	--	
Cash receipts (\$ bil.) <sup>1</sup>	202	201	198	44	49	61	48	42	48	
Livestock	93	93	91	23	23	23	23	22	23	
Crops	109	109	107	21	26	38	25	20	25	
Market basket (1982-84=100)										
Retail cost	156	160	--	159	160	161	--	--	--	--
Farm value	111	106	--	107	106	105	--	--	--	--
Spread	180	189	--	187	189	191	--	--	--	--
Farm value/retail cost (%)	25	23	--	24	23	23	--	--	--	--
Retail prices (1982-84=100)										
All food	153	157	161	157	158	159	160	160	161	161
At home	154	158	161	158	158	159	160	161	161	160
Away from home	153	157	161	157	157	159	160	160	161	162
Agricultural exports (\$ bil.) <sup>2</sup>	59.8	57.4	56.0	13.2	12.9	16.3	14.4	12.9	12.5	
Agricultural imports (\$ bil.) <sup>2</sup>	32.4	35.8	38.0	9.3	8.7	9.2	9.4	9.5	9.9	
Commercial production										
Red meat (mil. lb.)	43,135	43,209	44,724	10,651	10,939	1,167	11,085	11,149	11,342	
Poultry (mil. lb.)	32,289	33,258	34,295	8,480	8,398	8,383	8,275	8,690	8,705	
Eggs (mil. doz.)	6,358	6,460	6,625	1,595	1,606	1,667	1,630	1,640	1,665	
Milk (bil. lb.)	154.3	156.6	157.5	40.7	38.8	38.2	39.2	40.9	38.8	
Consumption, per capita										
Red meat and poultry (lb.)	209.2	208.6	215.0	52.3	52.5	53.9	52.2	54.1	54.3	
Corn beginning stocks (mil. bu.) <sup>3</sup>	1,557.8	425.9	883.2	6,903.0	4,494.1	2,496.6	883.2	7,246.8	4,937.1	
Corn use (mil. bu.) <sup>3</sup>	8,522.3	8,849.5	9,050.0	2,411.2	2,001.3	1,617.1	3,004.2	2,311.6	--	
Prices <sup>4</sup>										
Choice steers--Neb. Direct (\$/cwt)	65.21	66.32	65-68	66.63	65.65	66.61	61.80	63-65	65-69	
Barrows and gilts--IA, So. MN (\$/cwt)	53.39	51.36	36-38	56.41	54.45	43.53	34.75	36-38	39-41	
Broilers--12-city (cents/lb.)	61.2	58.80	56-59	59.10	62.00	54.00	56.40	57-59	58-62	
Eggs--NY gr. A large (cents/doz.)	88.2	81.20	75-79	72.10	79.70	88.20	79.00	69-71	72-78	
Milk--all at plant (\$/cwt)	14.87	13.38	13.55-14.05	12.93	12.70	14.40	14.63	13.20-13.60	12.55-13.25	
Wheat--KC HRW ordinary (\$/bu.)	5.48	4.16	--	4.49	3.76	3.82	3.62	--	--	
Corn--Chicago (\$/bu.)	3.87	2.78	--	2.86	2.64	2.74	2.72	--	--	
Soybeans--Chicago (\$/bu.)	7.53	7.60	--	8.54	7.19	6.95	6.68	--	--	
Cotton--avg. spot 41-34 (cents/lb)	77.93	69.89	--	69.81	71.40	67.64	64.48	--	--	
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Farm real estate values <sup>5,6</sup>										
Nominal (\$ per acre)	632	668	683	703	713	736	782	832	890	945
Real (1982 \$)	530	539	528	521	507	511	529	550	574	598

F = Forecast. -- = Not available. 1. Quarterly data seasonally adjusted at annual rates. 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. 1990-94 values as of January 1. 1986-89 values as of February 1. 6. The 1989-94 values are revised based on the 1992 Census of Agriculture.

## U.S. & Foreign Economic Data

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

	Annual			1996			1997			
	1995	1996	1997	II	III	IV	I	II	III	IV
Billions of current dollars (quarterly data seasonally adjusted at annual rates)										
Gross Domestic Product	7,265.4	7,636.0	8,081.0	7,607.7	7,676.0	7,792.9	7,933.6	8,034.3	8,124.3	8,231.8
Gross National Product	7,270.6	7,637.7	--	7,610.5	7,669.1	7,796.1	7,919.2	8,013.6	8,103.5	--
Personal consumption expenditures	4,957.7	5,207.6	5,488.1	5,189.1	5,227.4	5,308.1	5,405.7	5,432.1	5,527.4	5,587.2
Durable goods	608.5	634.5	659.1	638.6	634.5	638.2	658.4	644.5	667.3	666.2
Nondurable goods	1,475.8	1,534.7	1,592.1	1,532.3	1,538.3	1,560.1	1,587.4	1,578.9	1,600.8	1,601.4
Food	735.1	756.1	776.5	752.2	757.4	766.6	775.5	771.4	779.3	779.6
Clothing and shoes	254.7	264.3	277.2	265.7	265.7	266.2	275.2	274.8	280.5	278.5
Services	2,873.4	3,038.4	3,236.9	3,018.2	3,054.6	3,109.8	3,159.9	3,208.7	3,259.3	3,319.6
Gross private domestic investment	1,038.2	1,116.5	1,240.9	1,105.4	1,149.2	1,151.1	1,193.6	1,242.0	1,250.2	1,277.8
Fixed investment	1,008.1	1,090.7	1,172.6	1,082.0	1,112.0	1,119.2	1,127.5	1,160.8	1,201.3	1,200.8
Change in business inventories	30.1	25.9	68.3	23.4	37.1	31.9	66.1	81.1	48.9	77.0
Net exports of goods and services	-86.0	-94.8	-100.8	-93.8	-114	-88.6	-98.8	-88.7	-111.3	-104.2
Government consumption expenditures and gross investment	1,355.5	1,406.7	1,452.7	1,407.0	1,413.5	1,422.3	1,433.1	1,449.0	1,457.9	1,470.9
Billions of 1992 dollars (quarterly data seasonally adjusted at annual rates) <sup>1</sup>										
Gross Domestic Product	6,742.1	6,928.4	7,189.6	6,926.0	6,943.8	7,017.4	7,101.6	7,159.6	7,214.0	7,283.3
Gross National Product	6,748.7	6,932.0	--	6,930.1	6,940.2	7,023.1	7,091.8	7,144.4	7,198.8	--
Personal consumption expenditures	4,595.3	4,714.1	4,869.3	4,712.2	4,718.2	4,756.4	4,818.1	4,829.4	4,896.2	4,933.5
Durable goods	583.6	611.1	645.5	614.8	611.9	617.1	637.8	629.0	656.1	658.9
Nondurable goods	1,412.6	1,432.3	1,458.8	1,431.6	1,433.9	1,441.2	1,457.8	1,450.0	1,465.5	1,461.9
Food	690.5	689.7	689.9	690.3	687.3	689.0	694.6	688.2	689.5	687.4
Clothing and shoes	257.5	267.7	277.9	268.4	270.8	270.0	277.1	273.8	281.3	279.3
Services	2,599.6	2,671.0	2,765.7	2,666.5	2,672.8	2,698.2	2,723.9	2,749.8	2,776.1	2,812.9
Gross private domestic investment	991.5	1,069.1	1,195.7	1,059.2	1,100.3	1,104.8	1,149.2	1,197.1	1,204.6	1,231.8
Fixed investment	962.1	1,041.7	1,122.2	1,035.7	1,060.9	1,068.7	1,079.0	1,111.4	1,149.3	1,149.2
Change in business inventories	27.3	25.0	65.7	21.3	37.9	32.9	63.7	77.6	47.5	74.0
Net exports of goods and services	-98.8	-114.4	-146.4	-112.6	-138.9	-105.6	-126.3	-136.6	-164.1	-158.5
Government consumption expenditures and gross investment	1,251.9	1,257.9	1,269.7	1,265.1	1,261.5	1,261.8	1,260.5	1,270.1	1,273.4	1,274.7
GDP implicit price deflator (% change)	2.5	2.3	2.0	1.7	2.6	1.9	2.4	1.8	1.4	1.4
Disposable personal income (\$ bil.)	5,355.7	5,608.3	5,885.5	5,573.5	5,644.6	5,695.8	5,790.5	5,849.9	5,908.9	5,992.8
Disposable pers. income (1992 \$ bil.)	4,964.2	5,076.9	5,221.9	5,061.3	5,094.8	5,103.8	5,161.1	5,200.9	5,234.1	5,291.6
Per capita disposable pers. income (\$)	20,349	21,117	21,972	21,012	21,229	21,373	21,689	21,865	22,034	22,297
Per capita disp. pers. income (1992 \$)	18,861	19,116	19,494	19,081	19,161	19,152	19,331	19,439	19,518	19,688
U.S. resident population plus Armed Forces overseas (mil.) <sup>2</sup>	263.2	265.6	267.8	265.2	265.8	266.4	266.9	267.4	268.1	268.9
Civilian population (mil.) <sup>2</sup>	261.5	264.0	266.3	263.6	264.2	264.9	265.4	265.9	266.5	267.3
Annual19971998										
	1995	1996	1997	Jan	Aug	Sep	Oct	Nov	Dec	Jan
Monthly data seasonally adjusted										
Total industrial production (1992=100)	116.0	120.2	127.0	123.5	127.9	128.0	129.1	130.4	130.9	131.2
Leading economic indicators (1992=100)	100.8	102.0	103.8	102.8	104.1	104.3	104.4	104.5	104.5	104.5
Civilian employment (mil. persons) <sup>3</sup>	124.9	126.7	129.6	128.5	129.7	129.8	129.9	130.6	130.8	131.1
Civilian unemployment rate (%) <sup>3</sup>	5.6	5.4	4.9	5.3	4.7	4.9	4.8	4.6	4.7	4.7
Personal income (\$ bil. annual rate)	6,150.8	6,495.2	6,874.2	6,700.1	6,974.4	6,935.5	6,970.7	7,021.5	7,052.7	7092.8
Money stock-M2 (daily avg.) (\$ bil.) <sup>4</sup>	3,651.2	3,826.1	4,040.2	3,840.7	3,953.1	3,973.8	3,993.2	4,017.5	4,040.2	4064.5
Three-month Treasury bill rate (%)	5.50	5.00	5.10	5.10	4.95	5.00	5.00	5.20	5.20	5.10
AAA corporate bond yield (Moody's) (%)	7.60	7.40	7.30	7.40	7.00	7.20	7.00	6.90	6.80	6.60
Total housing starts (1,000 annual rate) <sup>5</sup>	1,354.1	1,476.8	1,474.0	1,394	1,383	1,501	1,529	1,523	1,538	1,534
Business inventory/sales ratio <sup>6</sup>	1.40	1.39	1.37	1.37	1.37	1.36	1.37	1.38	1.40	--
Sales of all retail stores (\$ bil.) <sup>7</sup>	2,346.3	2,465.1	2,546.3	209.3	213.5	213.8	213.5	213.8	214.9	217.0
Nondurable goods stores (\$ bil.)	1,405.6	1,457.8	1,505.4	124.2	126.7	126.8	126.7	126.2	125.9	126.7
Food stores (\$bil.)	408.4	424.2	432.1	35.8	36.3	36.3	36.3	36.4	36.2	36
Apparel and accessory stores (\$ bil.)	109.5	113.0	116.8	9.6	9.8	9.8	9.8	9.8	9.8	10
Eating and drinking places (\$ bil.)	239.9	238.4	244.1	20.2	20.5	20.6	20.5	20.3	20.5	20.6

-- = Not available. 1. In April 1996, 1992 dollars replaced 1987 dollars. 2. Population estimates based on 1990 census. 3. Data beginning January 1994 not directly comparable with data for earlier periods because of a major redesign of household survey questionnaire. 4. Annual data as of December of year listed. 5. Private, including farm. 6. Manufacturing and trade. 7. Annual total. *Information contact: David Johnson (202)694-5324*

Table 3—World Economic Growth

	Calendar year*									
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	<i>Real GDP, annual percent change</i>									
World	3.6	2.5	1.8	1.8	1.5	2.9	2.7	3.2	3.3	2.6
OECD	3.7	2.8	1.7	1.6	0.9	2.7	2.1	2.7	2.8	2.3
U.S.	3.4	1.2	-0.9	2.7	2.3	3.5	2.0	2.8	3.8	2.5
Canada	2.5	0.3	-1.9	0.9	2.5	3.9	2.2	1.2	3.8	3.2
Japan	4.8	5.2	3.8	1.0	0.3	0.7	1.4	4.1	0.8	0.7
Australia	4.3	1.5	-0.7	2.4	3.8	5.5	3.5	3.6	3.1	3.2
European Union	3.5	3.1	3.6	0.9	-0.6	2.9	2.6	1.8	2.6	2.7
France	4.3	2.5	0.8	1.2	-1.3	2.8	2.1	1.5	2.4	2.8
Germany	3.7	5.9	13.4	1.8	-1.2	2.4	2.2	1.4	2.3	2.7
Italy	2.9	2.2	1.1	0.6	-1.2	2.2	2.9	0.7	1.5	2.3
Spain	4.7	3.7	2.3	0.7	-1.2	2.1	2.9	2.3	3.4	3.5
United Kingdom	2.3	0.6	-2.1	-0.5	2.2	4.5	2.8	2.6	3.2	2.1
Central Europe	1.7	-4.1	-7.1	-12.3	-7.5	-9.5	-2.1	-1.1	1.1	3.2
Poland	0.3	-10.8	-6.3	2.0	3.7	4.6	6.6	6.0	6.5	5.5
Former Soviet Union	1.8	-3.4	-12.5	-18.0	-11.1	-14.7	-5.4	-3.7	-0.4	1.1
Russia	1.9	-3.6	-5.0	-14.5	-8.7	-12.6	-4.0	-2.8	0.0	1.2
Ukraine	3.9	-3.8	-8.4	-9.7	-14.2	-23.5	-11.8	-10.0	-3.5	0.0
East Asia										
China	4.5	3.3	9.1	14.0	13.6	12.7	10.6	9.6	8.9	7.9
Taiwan	8.2	5.4	7.5	6.8	6.3	6.5	6.1	5.7	6.8	3.1
Korea	6.4	9.7	9.2	5.3	5.7	8.6	9.1	7.1	5.8	-2.3
Southeast Asia										
Indonesia	9.0	8.9	8.9	7.2	7.2	7.5	8.1	7.8	5.5	-5.1
Malaysia	9.1	9.7	8.8	7.8	8.4	9.4	9.4	8.3	6.3	1.0
Philippines	6.2	2.7	-0.2	0.3	2.1	4.4	4.8	5.5	4.9	-0.5
Thailand	12.2	11.7	8.0	8.1	8.3	8.8	8.7	6.4	2.5	-2.5
South Asia										
India	6.6	5.6	0.5	5.3	4.0	6.3	6.1	8.2	5.0	4.1
Pakistan	4.8	4.5	5.5	7.8	1.9	3.9	4.4	5.8	3.8	4.3
Latin America										
Mexico	1.2	-1.5	2.9	2.5	4.7	5.8	2.0	3.5	4.2	2.6
Argentina	4.2	5.1	4.2	3.7	2.0	4.4	-6.2	5.1	7.2	4.8
Brazil	-6.3	0.2	8.9	8.6	6.0	7.4	-4.6	4.4	7.0	4.7
Colombia	3.3	-4.6	0.5	-1.2	4.5	5.8	3.0	4.1	3.2	1.0
Venezuela	3.4	4.1	1.8	4.2	5.2	5.8	5.3	2.2	2.7	3.8
Venezuela	-8.7	6.6	9.7	6.1	0.3	-2.8	2.2	-1.6	4.0	4.8
Middle East										
Israel	0.9	6.8	7.7	5.6	5.6	6.9	7.0	4.4	3.3	4.1
Saudi Arabia	0.0	8.7	8.4	2.8	-0.6	0.5	-0.5	2.4	2.0	2.8
Turkey	0.3	9.3	0.9	6.0	8.0	-5.5	7.0	7.2	5.0	4.0
Africa										
Egypt	2.8	1.1	1.0	-0.2	1.7	2.3	2.8	4.5	3.1	3.8
South Africa	3.0	2.4	2.1	0.3	0.5	2.0	2.4	4.2	4.9	4.5
South Africa	2.5	-1.0	-1.0	-2.6	1.3	2.4	3.4	3.1	1.8	2.8

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

Source: Oxford Economic Forecasting.

## Farm Prices

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

	Annual			1997				1998		
	1995	1996	1997	Mar	Oct	Nov	Dec	Jan	Feb	Mar
<i>1990-92=100</i>										
<b>Prices received</b>										
All farm products	102	112	107	108	107	107	105	103	101	103
All crops	112	126	115	118	115	114	111	110	110	112
Food grains	134	157	128	136	124	122	119	116	117	119
Feed grains and hay	112	146	117	123	113	112	112	113	113	113
Cotton	127	122	112	114	115	112	105	100	102	104
Tobacco	103	105	104	111	103	106	110	110	110	102
Oil-bearing crops	104	128	130	142	111	119	119	119	117	115
Fruit and nuts, all	100	118	109	95	129	114	89	77	89	95
Commercial vegetables	120	109	120	119	146	125	133	127	120	132
Potatoes and dry beans	107	114	93	93	86	93	96	99	103	109
Livestock and products	92	99	99	99	97	98	97	94	94	95
Meat animals	85	87	92	92	89	88	87	84	82	82
Dairy products	98	114	102	103	107	112	112	113	113	111
Poultry and eggs	107	120	114	115	108	113	107	105	104	108
<b>Prices paid</b>										
Commodities and services, interest, taxes, and wage rates	110	115	116	117	116	116	116	116	116	115
Production items	109	115	116	116	115	115	115	114	113	112
Feed	104	130	122	127	116	116	116	113	110	107
Livestock and poultry	82	75	93	89	94	93	94	92	93	91
Seeds	110	115	119	117	120	120	120	120	120	120
Fertilizer	120	124	121	124	119	117	115	114	114	113
Agricultural chemicals	115	119	121	119	122	123	123	124	123	122
Fuels	94	105	103	104	102	102	94	86	82	77
Supplies and repairs	112	115	117	117	118	118	118	118	118	118
Autos and trucks	107	108	109	110	109	109	109	109	109	110
Farm machinery	120	125	128	127	129	129	129	129	129	129
Building material	114	115	118	118	118	118	118	118	118	118
Farm services	118	118	118	117	118	118	117	116	116	116
Rent	116	119	119	119	119	119	119	124	124	124
Int. payable per acre on farm real estate debt	101	105	106	106	106	106	106	108	108	108
Taxes payable per acre on farm real estate	109	112	115	115	115	115	115	119	119	119
Wage rates (seasonally adjusted)	114	117	123	124	126	126	126	131	131	131
Production items, interest, taxes, and wage rates	109	114	116	117	115	115	115	115	115	114
Ratio, prices received to prices paid (%)*	93	98	92	92	92	92	91	89	87	90
Prices received (1910-14=100)	647	712	679	685	682	679	665	653	642	653
Prices paid, etc. (parity index) (1910-14=100)	1,437	1,504	1,527	1,529	1,525	1,524	1,520	1,523	1,517	1,507
Parity ratio (1910-14=100) (%)*	45	47	45	45	45	45	44	43	44	45

Values for two most recent months are revised or preliminary. \*Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio uses the most recent prices paid index. *Information contact: David Johnson (202) 694-5324.*

*For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540.*

*Internet users can access the NASS Home Page at <http://www.usda.gov/nass>.*

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

	Annual <sup>1</sup>			1997				1998		
	1994	1995	1996	Mar	Oct	Nov	Dec	Jan	Feb	Mar
<b>Crops</b>										
All wheat (\$/bu.)	3.45	4.55	4.30	3.93	3.55	3.50	3.45	3.33	3.27	3.34
Rice, rough (\$/cwt)	6.78	9.15	9.50	10.20	10.10	9.71	9.67	9.52	9.66	9.68
Corn (\$/bu.)	2.26	3.24	2.70	2.79	2.54	2.51	2.52	2.56	2.55	2.53
Sorghum (\$/cwt)	3.80	5.69	4.20	4.37	4.06	3.93	3.94	4.02	4.06	4.07
All hay, baled (\$/ton)	86.70	82.20	93.00	102.00	103.00	101.00	97.70	98.10	97.20	97.50
Soybeans (\$/bu.)	5.48	6.72	6.85	7.97	6.50	6.85	6.71	6.69	6.57	6.42
Cotton, upland (cents/lb.)	72.00	75.40	70.60	69.30	69.60	67.60	63.80	60.80	62.00	62.80
Potatoes (\$/cwt)	5.58	6.77	5.11	4.60	4.96	5.36	5.40	5.55	5.86	6.30
Lettuce (\$/cwt) <sup>2</sup>	13.30	23.50	14.80	13.50	35.10	22.10	21.30	19.00	10.90	13.40
Tomatoes fresh (\$/cwt) <sup>2</sup>	27.40	25.80	28.50	58.80	24.30	44.20	48.40	31.10	48.00	35.50
Onions (\$/cwt)	9.87	9.87	9.58	8.09	9.44	10.20	10.90	13.20	16.00	21.90
Beans, dry edible (\$/cwt)	22.50	20.80	24.20	23.30	16.90	18.30	20.20	21.10	21.40	21.40
Apples for fresh use (cents/lb.)	18.60	24.00	20.90	17.60	25.30	22.90	23.70	22.30	21.60	21.30
Pears for fresh use (\$/ton)	223.00	272.00	375.00	461.00	334.00	330.00	287.00	253.00	260.00	243.00
Oranges, all uses (\$/box) <sup>3</sup>	6.37	6.11	6.93	4.46	3.69	2.15	2.53	2.58	3.53	4.75
Grapefruit, all uses (\$/box) <sup>3</sup>	5.26	4.61	4.63	0.90	4.15	2.49	2.57	1.79	1.61	1.03
<b>Livestock</b>										
Cattle, all beef (\$/cwt)	66.50	61.80	58.70	64.80	63.30	63.30	62.90	62.50	60.40	61.20
Calves (\$/cwt)	87.10	73.10	58.40	80.00	84.30	82.90	83.30	86.60	88.70	89.70
Hogs, all (\$/cwt)	39.50	40.50	51.90	49.40	47.30	45.10	41.60	36.00	35.70	35.20
Lambs (\$/cwt)	64.80	78.20	88.20	99.70	87.40	83.50	84.10	78.40	73.40	--
All milk, sold to plants (\$/cwt)	13.01	12.78	14.75	13.50	14.00	14.60	14.60	14.70	14.70	14.50
Milk, manuf. grade (\$/cwt)	11.85	11.79	13.43	12.40	13.20	13.60	13.50	13.50	13.50	13.20
Broilers, live (cents/lb.)	35.00	34.40	38.10	38.00	35.00	34.30	32.10	33.10	34.40	35.20
Eggs, all (cents/doz.) <sup>4</sup>	67.25	62.40	75.00	71.80	65.80	80.60	78.70	74.00	64.70	69.90
Turkeys (cents/lb.)	40.70	41.00	43.30	37.80	40.30	42.30	38.60	35.50	34.00	34.60

-- = Not available. Values for last two months revised or preliminary. 1. Season-average price by crop year for crops. Calendar year average of monthly prices for livestock. 2. Excludes Hawaii. 3. Equivalent on-tree returns. 4. Average of all eggs sold by producers including hatching eggs and eggs sold at retail. Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540. Internet users can access the NASS Home Page at <http://www.usda.gov/nass>.

## Producer & Consumer Prices

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

	Annual			1997				1998		
	1995	1996	1997	Mar	Oct	Nov	Dec	Jan	Feb	Mar
1982-84=100										
Consumer Price Index, all items	152.4	156.9	160.5	160.0	161.6	161.5	161.3	161.6	161.9	162.2
CPI, all items less food	153.1	157.5	161.1	160.6	162.2	162.1	161.8	161.9	162.3	162.6
All food	148.4	153.3	157.3	156.6	158.2	158.5	158.7	159.9	159.4	159.7
Food away from home	149.0	152.7	157.0	156.0	158.2	158.6	159.0	159.2	159.6	159.9
Food at home	148.8	154.3	158.1	157.7	159.0	159.1	159.2	161.0	160.0	160.2
Meats <sup>1</sup>	135.5	140.2	144.4	143.1	145.2	144.6	143.4	143.2	142.4	142.2
Beef and veal	134.9	134.5	136.8	135.8	137.1	137.0	136.9	136.8	135.9	136.8
Pork	134.8	148.2	155.9	153.6	157.4	155.5	153.0	152.1	151.5	149.5
Poultry	143.5	152.4	156.6	156.3	155.6	157.4	155.2	155.1	155.3	155.1
Fish and seafood	171.6	173.1	177.1	178.2	178.4	178.9	177.2	180.7	180.9	180.3
Eggs	120.5	142.1	140.0	141.0	135.9	145.1	151.1	143.8	137.3	136.4
Dairy products <sup>2</sup>	132.8	142.1	145.5	146.1	145.7	147.0	147.8	148.3	147.7	148.4
Fats and oils <sup>3</sup>	137.3	140.5	141.7	142.4	141.7	140.4	140.3	140.5	141.5	142.2
Fresh fruits	219.0	234.4	236.3	234.6	242.6	233.9	239.4	240.2	240.3	235.9
Processed fruits	137.1	145.2	148.8	148.9	148.4	147.8	148.4	--	--	--
Fresh vegetables	193.1	189.2	194.6	202.2	192.8	205.2	205.2	233.8	210.5	220.2
Potatoes	174.7	180.6	174.2	161.2	181.6	174.3	175.0	180.2	179.3	181.6
Processed vegetables	138.3	143.9	147.2	147.1	145.9	146.2	145.9	--	--	--
Cereal and bakery products	167.5	174.0	177.6	176.7	178.4	178.0	178.4	179.0	179.7	179.6
Sugar and sweets	137.5	143.7	147.8	146.3	148.2	147.4	147.9	150.3	149.6	150.8
Nonalcoholic beverages	131.7	128.6	133.4	129.5	136.6	134.7	133.1	134.1	134.8	134.2
Apparel										
Apparel, commodities less footwear	129.3	128.5	129.4	131.7	131.4	131.4	127.6	--	--	--
Footwear	125.4	126.6	127.6	127.0	130.6	129.3	128.2	127.4	126.6	126.5
Tobacco and smoking products	225.7	232.8	243.7	238.2	250.2	250.7	251.2	253.8	261.2	254.1
Alcoholic beverages	153.9	158.5	162.8	162.1	163.7	163.7	164.0	164.6	165.0	165.1

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

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

	Annual			1997				1998		
	1994	1995	1996	Mar	Oct	Nov	Dec	Jan	Feb	Mar
1982=100										
All commodities	120.4	124.8	127.7	127.4	127.8	127.9	126.7	125.5	125.1	124.5
Finished goods <sup>1</sup>	125.5	127.9	131.3	132.1	132.3	131.7	131.1	130.2	130.1	129.7
All foods <sup>2</sup>	125.2	126.7	132.5	133.8	133.5	133.4	132.8	130.8	132.0	131.4
Consumer foods	126.8	129.0	133.6	135.3	135.1	134.6	134.2	132.8	133.6	133.3
Fresh fruits and melons	82.6	85.7	100.8	108.1	97.7	89.6	107.3	87.4	92.5	84.6
Fresh and dry vegetables	129.1	144.4	135.0	139.7	148.8	130.0	126.8	143.1	148.7	156.9
Dried fruits	121.1	121.2	124.2	123.3	125.7	122.9	124.8	124.8	124.8	122.7
Canned fruits and juices	126.0	129.4	137.5	138.5	135.8	135.3	134.8	133.0	134.5	134.0
Frozen fruits, juices, and ades	111.9	115.9	123.9	119.2	114.2	110.8	110.0	110.0	112.4	114.1
Fresh veg. except potatoes	117.8	139.8	120.9	150.4	143.1	124.7	118.5	133.1	136.6	148.2
Canned vegetables and juices	116.3	116.6	121.2	120.5	120.2	120.3	120.4	121.4	121.7	121.7
Frozen vegetables	126.0	124.2	125.4	125.6	126.6	125.5	125.0	124.9	125.1	124.9
Potatoes	142.3	142.6	133.9	80.3	132.6	117.6	118.3	116.5	113.6	120.9
Eggs for fresh use (1991=100)	80.9	86.3	105.1	98.8	90.1	117.7	109.7	98.3	86.0	98.6
Bakery products	160.0	164.3	169.8	173.0	174.6	174.8	174.6	175.1	175.2	175.2
Meats	104.6	102.9	109.0	111.7	109.8	108.1	106.3	102.3	102.6	99.6
Beef and veal	103.6	100.9	100.2	105.2	103.3	104.1	101.4	100.0	101.1	97.8
Pork	101.3	101.4	120.9	119.5	116.8	111.3	109.8	98.1	97.4	93.0
Processed poultry	114.8	114.3	119.8	117.4	117.0	116.0	114.0	112.6	114.7	116.7
Unprocessed and packaged fish	161.5	170.9	165.9	187.1	187.8	189.1	182.7	190.0	193.6	187.1
Dairy products	119.5	119.7	130.4	128.4	130.4	134.0	134.2	129.9	133.5	132.2
Processed fruits and vegetables	121.2	122.4	127.6	127.3	125.6	124.9	124.7	124.5	125.3	125.3
Shortening and cooking oil	138.6	142.5	138.5	137.2	140.0	142.2	136.9	138.2	141.5	140.2
Soft drinks	126.9	133.1	134.0	133.5	132.9	132.4	132.3	133.1	134.2	134.9
Finished consumer goods less foods	121.6	123.9	127.6	128.2	128.7	128.0	127.2	126.0	125.5	124.9
Alcoholic beverages	124.8	128.5	132.8	135.8	134.0	134.0	134.3	135.1	135.1	135.0
Apparel	123.5	124.2	125.1	125.5	125.9	126.0	125.9	125.7	125.9	125.9
Footwear	135.5	139.2	141.6	143.5	144.2	144.1	144.2	144.6	144.7	144.7
Tobacco products	224.7	231.3	237.4	241.4	256.4	256.4	257.9	257.2	261.9	262.0
Intermediate materials <sup>3</sup>	118.5	124.9	125.8	125.6	125.5	125.5	125.0	124.2	124.0	123.3
Materials for food manufacturing	118.5	119.5	125.3	124.1	122.4	124.2	123.0	119.7	122.1	121.1
Flour	110.3	122.8	136.8	119.6	115.4	114.2	113.3	109.9	111.5	114.1
Refined sugar <sup>4</sup>	118.3	119.4	123.7	126.2	121.4	119.9	119.7	119.1	121.0	120.5
Crude vegetable oils	135.0	129.8	118.1	119.4	118.0	126.1	126.4	125.9	130.8	135.2
Crude materials <sup>5</sup>	101.7	102.7	113.8	107.6	112.7	114.7	107.4	102.7	100.4	99.2
Foodstuffs and feedstuffs	106.5	105.8	121.5	114.1	110.1	110.4	108.8	105.4	105.1	106.6
Fruits and vegetables and nuts <sup>6</sup>	104.6	108.4	122.5	127.2	124.7	112.8	121.4	116.9	122.1	120.7
Grains	102.7	112.6	151.1	119.3	109.1	107.1	107.4	104.4	105.2	107.2
Slaughter livestock	96.4	92.8	95.2	96.3	93.0	93.1	91.4	85.6	83.6	85.4
Slaughter poultry, live	124.4	125.6	140.5	117.5	121.7	112.3	115.9	116.9	116.1	125.3
Plant and animal fibers	120.7	155.3	129.4	122.5	116.8	115.5	108.4	104.1	108.1	110.1
Fluid milk	95.8	93.7	107.9	98.7	101.3	104.1	104.7	105.8	105.9	105.0
Oilseeds	117.4	112.6	139.4	154.3	129.5	134.8	128.3	123.9	126.9	123.4
Leaf tobacco	101.2	78.9	89.4	111.7	105.5	108.5	112.6	110.8	115.2	104.3
Raw cane sugar	115.2	119.7	118.6	116.3	118.1	116.4	116.5	116.5	116.4	115.7

1. Commodities ready for sale to ultimate consumer. 2. Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). 3. Commodities requiring further processing to become finished goods. 4. All types and sizes of refined sugar. 5. Products entering market for the first time that have not been manufactured at that point. 6. Fresh and dried. Information contact: David Johnson (202) 694-5324. For historical data or for categories not listed here, call the Bureau of Labor Statistics' CPI Information Hotline at (202) 606-7705.

## Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual			1996	1997					
	1994	1995	1996	Dec	Jul	Aug	Sep	Oct	Nov	Dec
Market basket <sup>1</sup>										
Retail cost (1982-84=100)	145.4	149.4	155.9	159.7	159.8	160.0	160.4	160.6	161.0	162.8
Farm value (1982-84=100)	101.4	102.7	110.8	106.2	106.5	105.2	103.6	106.8	105.5	107.2
Farm-retail spread (1982-84=100)	169.0	174.6	180.3	188.6	188.5	189.6	190.9	189.6	191.0	192.8
Farm value-retail cost (%)	24.4	24.1	24.9	23.3	23.3	23.0	22.6	23.3	22.9	23.1
Meat products										
Retail cost (1982-84=100)	135.4	135.5	140.1	144.5	145.5	145.6	145.2	144.7	143.4	143.2
Farm value (1982-84=100)	96.1	93.8	100.4	102.2	104.1	100.5	97.8	97.0	94.8	102.2
Farm-retail spread (1982-84=100)	175.7	178.2	180.9	187.9	188.0	191.9	193.8	193.6	193.3	185.3
Farm value-retail cost (%)	35.9	35.1	36.3	35.8	36.2	34.9	34.1	34.0	33.5	36.1
Dairy products										
Retail cost (1982-84=100)	131.7	132.8	142.1	147.8	143.4	143.5	145.7	147.0	147.8	148.3
Farm value (1982-84=100)	94.5	92.2	107.2	96.6	91.7	94.0	100.6	105.3	104.0	105.7
Farm-retail spread (1982-84=100)	166.1	170.3	174.3	195.0	191.1	189.2	187.3	185.5	188.2	187.5
Farm value-retail cost (%)	34.4	33.3	36.2	31.4	30.7	31.4	33.1	34.3	33.8	34.2
Poultry										
Retail cost (1982-84=100)	141.5	143.5	152.4	158.2	155.6	156.8	155.6	157.4	155.2	155.1
Farm value (1982-84=100)	114.6	113.7	126.2	128.2	128.4	124.2	114.4	113.4	105.7	106.9
Farm-retail spread (1982-84=100)	172.6	177.7	182.6	192.8	186.9	194.3	203.1	208.0	212.2	210.6
Farm value-retail cost (%)	43.3	42.4	44.3	43.4	44.2	42.4	39.3	38.6	36.4	36.9
Eggs										
Retail cost (1982-84=100)	114.3	120.5	142.1	149.0	137.7	136.9	135.9	145.1	151.1	149.0
Farm value (1982-84=100)	83.5	91.1	114.7	113.1	85.6	99.0	91.4	121.9	116.9	143.8
Farm-retail spread (1982-84=100)	169.4	173.2	191.4	213.5	231.3	205.0	215.8	186.9	212.6	223.7
Farm value-retail cost (%)	47.0	48.6	51.9	48.8	39.9	46.5	43.2	54.0	49.7	46.3
Cereal and bakery products										
Retail cost (1982-84=100)	164.2	167.5	174.0	176.5	178.6	178.1	178.4	178.0	178.4	179.0
Farm value (1982-84=100)	102.6	102.6	102.6	112.2	104.1	106.3	103.8	102.7	103.8	100.8
Farm-retail spread (1982-84=100)	171.5	176.5	183.9	185.5	189.0	188.1	188.8	188.5	188.8	189.9
Farm value-retail cost (%)	7.7	7.5	7.2	7.8	7.1	7.3	7.1	7.1	7.1	6.9
Fresh fruit										
Retail cost (1982-84=100)	208.8	226.9	243.0	247.9	246.6	255.6	254.0	243.3	250.1	247.9
Farm value (1982-84=100)	119.4	136.2	151.7	141.3	139.0	147.2	137.1	140.6	159.0	136.6
Farm-retail spread (1982-84=100)	250.1	268.7	285.2	297.1	296.3	305.6	307.9	290.7	292.1	299.3
Farm value-retail cost (%)	18.1	19.0	19.7	18.0	17.8	18.2	17.1	18.3	20.1	17.4
Fresh vegetables										
Retail cost (1982-84=100)	172.3	193.1	189.2	190.6	192.3	189.5	192.8	205.2	205.2	233.8
Farm value (1982-84=100)	121.1	130.1	113.3	99.5	135.2	117.7	113.0	131.2	122.7	126.4
Farm-retail spread (1982-84=100)	198.6	225.5	228.3	237.4	221.7	226.4	233.8	243.2	247.6	289.0
Farm value-retail cost (%)	23.9	22.9	20.3	17.7	23.9	21.1	19.9	21.7	20.3	18.4
Processed fruits and vegetables										
Retail cost (1982-84=100)	134.5	137.5	144.4	148.3	148.7	147.6	147.2	146.9	147.2	147.2
Farm value (1982-84=100)	112.5	119.2	117.2	117.7	115.0	114.6	113.1	115.0	115.1	117.5
Farm-retail spread (1982-84=100)	141.3	143.2	152.9	157.9	159.2	157.9	157.5	156.8	157.2	156.5
Farm value-retail cost (%)	19.9	20.6	19.3	18.9	18.4	18.5	18.4	18.6	18.6	19.0
Fats and oils										
Retail cost (1982-84=100)	133.5	137.3	140.5	142.3	141.4	142.0	141.7	140.4	140.3	140.5
Farm value (1982-84=100)	125.5	121.3	112.3	108.5	104.8	105.7	113.0	117.9	114.3	113.6
Farm-retail spread (1982-84=100)	136.5	143.1	150.9	154.7	154.9	155.4	152.3	148.7	149.9	150.4
Farm value-retail cost (%)	25.3	23.8	21.5	20.5	19.9	20.0	21.4	22.6	21.9	21.8

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			1997				1998		
	1995	1996	1997	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Beef, All Fresh Retail Price (cts/lb)	259.4	252.4	253.8	254.5	254.0	253.4	254.8	253.3	252.3	255.2
Beef, Choice										
Retail price (cents/lb.) <sup>2</sup>	284.4	280.2	279.5	276.1	279.0	278.0	280.9	275.3	272.0	273.1
Wholesale value (cents) <sup>3</sup>	163.9	158.1	158.2	160.5	158.7	160.2	155.6	154.2	148.5	147.0
Net farm value (cents) <sup>4</sup>	138.4	134.9	137.2	140.0	138.2	139.5	136.5	135.8	128.0	129.9
Farm-retail spread (cents)	146.0	145.3	142.3	136.1	140.8	138.5	144.4	139.5	144.0	143.2
Wholesale-retail (cents) <sup>5</sup>	120.5	122.1	121.3	115.6	120.3	117.8	125.3	121.1	123.5	126.1
Farm-wholesale (cents) <sup>6</sup>	25.5	23.2	21.0	20.5	20.5	20.7	19.1	18.4	20.5	17.1
Farm value-retail price (%)	49	48	49	51	50	50	49	49	47	48
Pork										
Retail price (cents/lb.) <sup>2</sup>	194.8	220.9	231.5	228.9	234.9	231.3	226.8	234.8	234.5	229.8
Wholesale value (cents) <sup>3</sup>	98.8	117.2	117.1	115.7	110.5	107.9	101.5	96.2	94.0	91.4
Net farm value (cents) <sup>4</sup>	66.7	84.6	81.1	76.3	73.2	69.9	62.1	57.4	54.6	54.3
Farm-retail spread (cents)	128.1	136.3	150.4	152.6	161.7	161.4	164.7	177.4	179.9	175.5
Wholesale-retail (cents) <sup>5</sup>	96.0	103.7	114.4	113.2	124.4	123.4	125.3	138.6	140.5	138.4
Farm-wholesale (cents) <sup>6</sup>	32.1	32.6	36.0	39.4	37.3	38.0	39.4	38.8	39.4	37.1
Farm value-retail price (%)	34	38	35	33	31	30	27	24	23	24

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, 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 contacts: Veronica Jones (202) 694-5387, Larry Duewer (202) 694-5172*

Table 9—Price Indexes of Food Marketing Costs

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

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

## Livestock & Products

Table 10—U.S. Meat Supply & Use

	Beg. stocks	Produc- tion <sup>1</sup>	Imports	Total supply	Exports	Ending stocks	Consumption		Conversion factor <sup>3</sup>	Primary market price <sup>4</sup>
							Total	Per capita <sup>2</sup>		
				Million lbs. <sup>5</sup>				Lbs.		\$/cwt
<b>Beef</b>										
1994	529	24,386	2,369	27,284	1,611	548	25,125	67	0.695	69
1995	548	25,222	2,103	27,873	1,821	519	25,533	67	0.695	66
1996	519	25,525	2,073	28,117	1,877	377	25,863	68	0.700	65
1997	377	25,490	2,343	28,210	2,136	465	25,609	67	0.700	66
1998	465	25,431	2,675	28,571	2,090	350	26,131	68	0.700	65-68
<b>Pork</b>										
1994	359	17,696	743	18,798	549	438	17,811	53	0.776	40
1995	438	17,849	664	18,951	787	396	17,768	52	0.776	42
1996	396	17,117	618	18,131	970	366	16,795	49	0.776	53
1997	366	17,274	633	18,273	1,044	408	16,821	49	0.776	51
1998	408	18,930	575	19,913	1,020	470	18,423	53	0.776	36-38
<b>Veal<sup>6</sup></b>										
1994	4	293	0	297	0	7	290	1	0.83	87
1995	7	319	0	326	0	7	319	1	0.83	75
1996	7	378	0	385	0	7	378	1	0.83	59
1997	7	334	0	341	0	8	333	1	0.83	82
1998	8	272	0	280	0	6	274	1	0.83	86
<b>Lamb and mutton</b>										
1994	8	308	49	365	9	11	345	1	0.89	67
1995	11	287	64	362	6	8	348	1	0.89	76
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	240	90	344	8	11	325	1	0.89	72
<b>Total red meat</b>										
1994	900	42,683	3,161	46,744	2,169	1,004	43,571	122	--	--
1995	1,004	43,677	2,831	47,512	2,614	930	43,968	122	--	--
1996	930	43,288	2,764	46,982	2,853	759	43,370	120	--	--
1997	759	43,358	3,059	47,176	3,185	895	43,096	118	--	--
1998	895	44,873	3,340	49,108	3,118	837	45,153	123	--	--
<b>Broilers</b>										
1994	358	23,666	1	24,025	2,876	458	20,690	70	0.875	56
1995	458	24,827	1	25,287	3,894	560	20,832	69	0.869	56
1996	560	26,124	4	26,688	4,420	641	21,626	71	0.869	61
1997	641	27,041	5	27,687	4,664	607	22,416	73	0.869	59
1998	607	28,007	4	28,618	4,900	650	23,068	74	0.869	56-59
<b>Mature chickens</b>										
1994	8	509	0	517	90	14	413	2	1.0	--
1995	14	496	3	513	99	7	406	2	1.0	--
1996	7	491	0	498	265	6	228	1	1.0	--
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	521	0	528	390	7	131	1	1.0	--
<b>Turkeys</b>										
1994	249	4,937	0	5,187	280	254	4,652	18	1.0	66
1995	254	5,069	2	5,326	348	271	4,706	18	1.0	66
1996	271	5,401	1	5,673	438	328	4,906	19	1.0	66
1997	328	5,412	1	5,741	598	415	4,727	18	1.0	65
1998	415	5,458	1	5,874	610	425	4,838	18	1.0	59-62
<b>Total poultry</b>										
1994	615	29,113	1	29,728	3,246	727	25,754	89	--	--
1995	727	30,393	6	31,125	4,342	839	25,944	88	--	--
1996	839	32,015	5	32,859	5,123	975	26,760	90	--	--
1997	975	32,964	6	33,944	5,646	1,029	27,269	91	--	--
1998	1,029	33,986	5	35,020	5,900	1,082	28,037	93	--	--
<b>Red meat and poultry</b>										
1994	1,515	71,796	3,162	76,472	5,415	1,731	69,326	211	--	--
1995	1,731	74,070	2,837	78,637	6,956	1,769	69,912	210	--	--
1996	1,769	75,303	2,769	79,841	7,976	1,734	70,130	210	--	--
1997	1,734	76,322	3,065	81,120	8,831	1,924	70,364	209	--	--
1998	1,924	78,859	3,345	84,128	9,018	1,919	73,190	215	--	--

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

Table 11—U.S. Egg Supply &amp; Use

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption		Primary market price*
								Total	Per capita	
				Million doz.					No.	¢/doz.
1991	11.6	5,800.6	2.3	5,814.5	154.5	708.6	13.0	4,938.5	234.6	77.5
1992	13.0	5,905.0	4.3	5,922.3	157.0	732.0	13.5	5,019.8	235.9	65.4
1993	13.5	6,005.8	4.7	6,023.9	158.9	769.6	10.7	5,084.6	236.4	72.5
1994	10.7	6,177.6	3.7	6,192.0	187.6	805.4	14.9	5,184.1	238.7	67.3
1995	14.9	6,215.6	4.1	6,234.6	208.9	847.2	11.2	5,167.3	235.6	72.9
1996	11.2	6,371.3	5.4	6,387.9	253.1	864.7	8.5	5,261.5	237.7	88.2
1997	8.5	6,459.8	6.9	6,475.2	227.8	891.8	7.4	5,348.3	239.6	81.2
1998	7.4	6,625.0	4.5	6,636.9	235.0	930.0	10.0	5,461.9	242.5	76.8

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

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

	Production	Farm use	Commercial		Imports	Total commercial supply	CCC net removals	Commercial		All milk price <sup>1</sup>	CCC net removals		
			Farm Market-ings	Beg. stocks				Ending stocks	Disap-pear-ance		Skim solids basis	Total solid basis <sup>2</sup>	
	Billion lbs. (milkfat basis)										\$/cwt	Billion lbs.	
1990	147.7	2.0	145.7	4.1	2.7	152.5	9.0	5.1	138.3	13.68	1.6	4.6	
1991	147.7	2.0	145.7	5.1	2.6	153.4	10.4	4.5	138.6	12.24	3.9	6.5	
1992	150.9	1.9	149.0	4.5	2.5	155.9	9.9	4.7	141.3	13.09	2.0	5.2	
1993	150.6	1.8	148.8	4.7	2.8	156.2	6.7	4.6	145.0	12.80	3.9	5.0	
1994	153.7	1.7	152.0	4.6	2.9	159.4	4.8	4.3	150.3	12.97	3.7	4.2	
1995	155.4	1.6	153.9	4.3	2.9	161.1	2.1	4.1	154.9	12.74	4.4	3.5	
1996	154.3	1.5	153.8	4.1	2.9	159.8	0.1	4.7	155.0	14.74	0.7	0.5	
1997	156.6	1.4	155.2	4.7	2.7	162.6	1.3	4.9	156.5	13.38	3.6	2.7	
1998	157.5	1.3	156.2	4.9	3.2	164.3	0.7	4.9	158.7	13.80	2.7	1.9	

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 &amp; Eggs

	Annual			1997						1998
	1995	1996	1997	Jan	Aug	Sep	Oct	Nov	Dec	Jan
<b>Broilers</b>										
Federally inspected slaughter certified (mil. lb.)	25,020.8	26,336.3	27,196.3	2,370.2	2,276.8	2,281.1	2,496.8	2,009.8	2,301.7	2,346.6
Wholesale price, 12-city (cents/lb.)	56.2	61.2	58.8	62.0	63.2	59.9	55.4	54.6	52.2	54.7
Price of grower feed (\$/ton) <sup>1</sup>	135.1	175.5	157.8	155.0	154.0	145.0	143.0	149.0	146.0	147.0
Broiler-feed price ratio <sup>2</sup>	5.1	4.4	4.7	5.2	5.2	5.3	4.9	4.6	4.4	4.5
Stocks beginning of period (mil. lb.)	458.4	560.1	641.3	641.3	655.8	559.0	545.6	579.3	604.0	606.8
Broiler-type chicks hatched (mil.)	7,932.4	8,076.9	8,306.5	700.5	709.3	683.2	683.1	648.1	711.6	710.6
<b>Turkeys</b>										
Federally inspected slaughter certified (mil. lb.)	5,128.8	5,465.6	5,477.9	442.1	456.3	462.6	513.7	453.5	460.4	431.7
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.4	66.5	64.9	59.7	68.1	67.9	67.3	70.1	62.2	55.6
Price of turkey grower feed (\$/ton) <sup>1</sup>	130.1	166.1	142.5	143.0	138.0	135.0	132.0	134.0	133.0	131.0
Turkey-feed price ratio <sup>2</sup>	6.3	5.3	5.6	5.4	5.9	6.1	6.1	6.3	5.8	5.4
Stocks beginning of period (mil. lb.)	254.4	271.3	328.0	328.0	714.3	742.0	770.7	736.6	438.6	415.1
Poults placed in U.S. (mil.)	321.7	327.2	321.5	27.1	26.3	23.9	24.6	23.3	25.7	26.2
<b>Eggs</b>										
Farm production (mil.)	74,587	76,456	77,515	6,574	6,483	6,350	6,646	6,549	6,814	6,737
Average number of layers (mil.)	294	298	303	304	300	303	306	309	311	310
Rate of lay (eggs per layer on farms)	253.8	256.2	255.2	22.0	21.6	21.0	21.7	21.2	21.9	21.7
Cartoned price, New York, grade A large (cents/doz.) <sup>3</sup>	72.9	88.2	81.2	86.3	74.7	82.4	77.0	97.4	90.3	83.2
Price of laying feed (\$/ton) <sup>1</sup>	149.7	184.4	159.8	152.0	163.0	150.0	151.0	141.0	143.0	124.0
Egg-feed price ratio <sup>2</sup>	8.6	8.5	8.8	10.0	7.8	9.3	8.7	11.4	11.0	11.9
Stocks, first of month Frozen (mil. doz.)	14.8	10.5	7.7	8.5	6.7	8.4	8.3	8.3	7.8	7.4
Replacement chicks hatched (mil.)	397	407	422	33.3	32.9	35.8	35.2	27.8	35.6	37.2

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			1997					1998	
	1995	1996	1997	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Milk—Basic Formula Price (\$/cwt) <sup>1</sup>	11.83	13.39	12.05	12.46	12.79	12.83	12.96	13.29	13.25	13.32
Wholesale prices										
Butter, grade A Chi. (cents/lb.)	75.6	100.3	107.1	98.4	101.6	135.3	148.8	120.1	109.2	130.1
Am. cheese, Wis. assembly pt. (cents/lb.)	132.8	149.1	132.4	132.2	141.4	142.4	143.8	146.1	144.5	144.7
Nonfat dry milk (cents/lb.) <sup>2</sup>	108.6	122.2	110.0	114.9	107.1	106.9	107.1	107.4	105.9	105.2
USDA net removals										
Total (mil. lb.) <sup>2</sup>	2,106.1	86.9	1,277.6	37.1	129.4	141.2	183.0	183.4	129.7	74.4
Butter (mil. lb.)	78.5	0.1	47.0	0.8	5.1	5.3	7.1	7.1	4.3	2.1
Am. cheese (mil. lb.)	6.1	4.6	11.3	1.0	0.4	1.2	0.8	0.5	0.7	0.7
Nonfat dry milk (mil. lb.)	343.8	57.2	296.7	14.4	34.7	24.9	31.9	31.7	37.5	32.4
Milk										
Milk prod. 20 States (mil. lb.)	131,780	131,343	133,861	10,321	10,671	10,977	10,591	11,118	11,316	10,434
Milk per cow (lb.)	16,762	16,800	17,252	1,328	1,377	1,416	1,369	1,438	1,464	1,351
Number of milk cows (1,000)	7,862	7,818	7,759	7,774	7,752	7,750	7,737	7,732	7,730	7,726
U.S. milk production (mil. lb.) <sup>4</sup>	155,424	154,259	156,602	12,141	12,423	12,818	12,363	12,973	13,255	12,217
Stocks, beginning <sup>3</sup>										
Total (mil. lb.)	5,760	4,168	4,714	5,051	6,846	5,933	5,215	4,696	4,887	5,323
Commercial (mil. lb.)	4,263	4,099	4,704	5,042	6,814	5,914	5,199	4,677	4,869	5,306
Government (mil. lb.)	1,497	69	10	8	32	19	16	19	18	16
Imports, total (mil. lb.) <sup>3</sup>	2,936	2,911	2,698	171	228	265	275	342	199	--
Commercial disappearance (mil. lb.) <sup>3</sup>	154,843	154,985	156,487	11,973	13,309	13,540	12,864	12,823	12,779	--
Butter										
Production (mil. lb.)	1,264.5	1,174.5	1,148.0	108.3	79.7	83.1	88.7	105.7	113.5	102.7
Stocks, beginning (mil. lb.)	79.4	18.6	13.7	23.2	69.5	43.9	26.6	15.4	20.8	34.2
Commercial disappearance (mil. lb.)	1,186.3	1,179.8	1,097.0	95.1	100.2	95.0	92.9	93.5	97.3	--
American cheese										
Production (mil. lb.)	3,131.4	3,280.8	3,283.0	266.8	260.6	260.1	251.6	277.3	283.2	259.8
Stocks, beginning (mil. lb.)	310.4	307.0	379.9	384.0	461.0	434.3	415.1	405.9	410.8	412.2
Commercial disappearance (mil. lb.)	3,148.5	3,230.1	3,266.4	271.6	287.3	279.7	262.9	274.7	282.0	--
Other cheese										
Production (mil. lb.)	3,785.5	3,936.7	4,068.6	307.8	345.1	359.5	350.6	352.0	332.5	313.9
Stocks, beginning (mil. lb.)	126.8	105.3	107.3	117.7	122.8	109.6	90.2	68.9	70.0	81.7
Commercial disappearance (mil. lb.)	4,125.6	4,243.0	4,390.3	328.0	383.5	408.5	400.7	387.6	334.9	--
Nonfat dry milk										
Production (mil. lb.)	1,233.0	1,061.8	1,208.1	92.0	77.3	72.5	74.6	102.2	103.7	96.4
Stocks, beginning (mil. lb.)	131.2	85.0	71.4	75.1	161.8	141.9	124.9	116.8	124.9	130.1
Commercial disappearance (mil. lb.)	923.7	1,009.0	885.4	81.0	65.6	71.0	59.2	65.1	68.1	--
Frozen dessert										
Production (mil. gal.) <sup>5</sup>	1,229.6	1,240.9	1,230.8	90.3	99.8	97.0	78.4	78.6	83.3	90.4
	Annual			1996			1997			1998
	1995	1996	1997	III	IV	I	II	III	IV	I
Milk production (mil. lb.)	155,424	154,259	156,602	37,642	37,946	38,961	40,683	38,805	38,153	39,292
Milk per cow (lb.)	16,433	16,479	16,915	4,026	4,071	4,192	4,384	4,195	4,144	4,278
No. of milk cows (1,000)	9,458	9,361	9,258	9,349	9,320	9,295	9,280	9,251	9,206	9,184
Milk-feed price ratio	1.63	1.60	1.54	1.64	1.67	1.53	1.48	1.47	1.70	1.74
Returns over concentrate costs (\$/cwt milk)	9.50	10.98	9.80	11.95	11.55	9.80	9.30	9.10	10.90	11.15

-- = Not available. Quarterly values for latest year are preliminary. 1. Manufacturing grade milk. 2. Prices paid f.o.b. Central States production area. 3. Milk equivalent, fat basis. 4. Monthly data ERS estimates. 5. Hard ice cream, ice milk, and hard sherbet. *Information contact: LaVerne Williams (202) 694-5190*

Table 15—Wool

	Annual			1996			1997			
	1995	1996	1997	II	III	IV	I	II	III	IV
U.S. wool price (cents/lb.) <sup>1</sup>	258	193	238	192	192	191	196	244	255	258
Imported wool price (cents/lb.) <sup>2</sup>	249	196	206	197	192	191	196	210	213	204
U.S. mill consumption, scoured										
Apparel wool (1,000 lb.)	129,299	110,986	108,359	30,816	23,472	23,092	27,461	28,158	25,509	27,231
Carpet wool (1,000 lb.)	12,667	12,311	13,508	2,660	3,393	3,111	3,417	3,324	3,371	3,396

1. Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up. 2. Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10 cents. *Information contact: Mae Dean Johnson (202) 694-5299*

Table 16—Meat Animals

	Annual			1997				1998		
	1995	1996	1997	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Cattle on feed (7 States, 1000+ head capacity)										
Number on feed (1,000 head) <sup>1</sup>	8,031	8,667	8,943	8,769	8,558	9,390	9,003	9,455	9,180	8,835
Placed on feed (1,000 head)	20,034	19,564	20,765	1,694	2,454	1,826	1,423	1,492	1,250	1,421
Marketings (1,000 head)	18,753	18,636	19,552	1,497	1,545	1,429	1,415	1,689	1,539	1580
Other disappearance (1,000 head)	674	652	701	62	77	69	68	78	56	69
Market prices (\$/cwt)										
Slaughter cattle										
Choice steers, 1,100-1,300 lb.										
Texas	66.69	65.06	65.99	67.44	66.93	67.66	65.91	64.57	60.77	62.05
Neb. direct	66.26	65.05	66.32	68.21	67.08	67.21	65.53	63.57	59.74	61.99
Boning utility cows, Sioux Falls	35.58	30.33	34.27	35.79	31.71	32.20	34.50	38.14	38.5	38.19
Feeder steers										
Medium no. 1, Oklahoma City										
600-650 lb.	70.49	61.31	81.34	77.64	79.55	80.62	83.28	81.54	83.14	85.65
750-800 lb.	68.03	61.08	76.19	69.14	76.84	79.11	81.00	77.23	75.28	50.95
Slaughter hogs										
Barrows and gilts, 230-250 lb.										
Iowa, S. Minn.	42.35	53.39	51.36	48.32	46.62	44.54	39.85	35.6	34.53	34.22
5 markets	41.99	53.42	51.30	48.44	46.17	44.40	40.50	35.82	34.11	34.29
Sows, 5 markets	32.62	44.61	44.51	46.56	36.69	36.69	34.08	27.52	28.49	28.17
Slaughter sheep and lambs										
Lambs, Choice, San Angelo	75.86	85.27	87.95	97.50	82.75	80.33	83.52	74.38	74.31	94.04
Ewes, Good, San Angelo	33.91	39.05	49.33	54.06	45.44	49.67	48.42	49.75	50.69	91.97
Feeder lambs										
Choice, San Angelo	81.08	94.88	104.43	122.75	96.31	94.00	97.17	95.31	92	82.5
Wholesale meat prices, Midwest										
Boxed beef cut-out value										
Choice, 700-800 lb.	106.09	102.01	102.75	104.33	102.86	103.74	100.43	99.16	94.57	94.04
Select, 700-800 lb.	98.45	95.34	96.15	99.22	93.27	94.66	93.39	96.76	92.77	97.97
Canner and cutter cow beef	68.67	58.18	64.50	68.96	59.76	59.67	62.13	62	65.64	64.08
Pork cutout, No. 2	59.98	72.39	72.06	70.84	66.12	65.49	57.76	51.75	52.07	52.07
Pork loins, bone-in, 1/4 " trim, 14-19 lb.	107.74	118.49	111.57	106.58	99.68	85.99	79.44	104.08	103.03	104.56
Pork bellies, 12-14 lb.	43.04	69.97	73.58	69.05	57.97	53.77	47.52	48.39	45.89	42.28
Hams, bone-in, trimmed, 20-27 lb.	--	--	--	--	--	--	--	46.35	48.88	46.41
All fresh beef retail price	259.42	252.44	253.72	254.48	254.02	253.35	254.77	253.28	252.25	255.17
Commercial slaughter (1,000 head) <sup>2</sup>										
Cattle	35,639	36,583	36,351	2,859	3,224	2,760	2,877	3,040	2,747	--
Steers	18,274	17,819	17,554	1,368	1,444	1,259	1,345	1,450	1,346	--
Heifers	10,399	10,756	11,538	909	1,092	864	873	974	894	--
Cows	6,281	7,274	6,563	525	624	584	609	568	462	--
Bull and stags	686	728	696	57	64	53	50	48	45	--
Calves	1,430	1,768	1,574	348	141	122	145	128	113	--
Sheep and lambs	4,560	4,184	3,911	397	335	314	349	310	309	--
Hogs	96,326	92,394	91,566	7,582	8,780	7,748	8,624	8,588	7,711	--
Barrows and gilts	91,683	88,224	88,253	7,294	8,115	7,433	8,289	8,271	7,417	--
Commercial production (mil. lb.)										
Beef	25,117	25,421	25,384	1,966	2,300	1,934	2,024	2,157	1,977	--
Veal	307	368	323	28	28	24	26	24	21	--
Lamb and mutton	284	265	257	26	22	20	23	21	21	--
Pork	17,810	17,084	17,245	1,422	1,652	1,473	1,641	1,634	1,457	--
	Annual			1996				1997		
	1995	1996	1997	III	IV	I	II	III	IV	I
Hogs and pigs (U.S.) <sup>3</sup>										
Inventory (1,000 head) <sup>1</sup>	59,990	58,264	56,141	57,200	58,200	56,171	55,900	58,150	60,384	59,920
Breeding (1,000 head) <sup>1</sup>	7,060	6,839	6,667	6,870	6,770	6,655	6,800	6,950	6,943	6,979
Market (1,000 head) <sup>1</sup>	52,930	51,425	49,474	50,330	51,430	49,516	49,100	51,200	53,441	52,941
Farrowings (1,000 head)	11,847	11,187	11,440	2,761	2,717	2,677	2,952	2,899	2,931	2,914
Pig crop (1,000 head)	98,516	94,956	98,972	23,667	23,159	22,990	25,460	25,220	25,302	--
Cattle on feed, 7 States (1,000 head) <sup>4</sup>										
Steers and steer calves	5,218	5,588	5410	4,177	4,656	5,410	5,417	4,615	5,147	5803
Heifers and heifer calves	2,785	3,005	3455	2,364	2,798	3,455	3,431	3,026	3,383	3615
Cows and bulls	30	74	78	37	32	78	56	38	28	37

-- = 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 seven States are AZ, CA, CO, IA, KS, NE, and TX. Information contact: Leland Southard (202) 501-8553

## Crops &amp; Products

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

	Area			Yield	Production	Total supply <sup>4</sup>	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price <sup>5</sup>
	Set aside <sup>3</sup>	Planted	Harvested									
	<i>Mil. Acres</i>		<i>Bu./acre</i>									
Wheat												
1993/94	5.7	72.2	62.7	38.2	2,396	3,036	272	968	1,228	2,467	568	3.26
1994/95	5.2	70.3	61.8	37.6	2,321	2,981	344	942	1,188	2,475	507	3.45
1995/96*	6.1	69.1	60.9	35.8	2,183	2,757	153	987	1,241	2,381	376	4.55
1996/97*	--	75.6	62.9	36.3	2,285	2,753	314	995	1,001	2,310	444	4.30
1997/98*	--	71.0	63.6	39.7	2,527	3,060	275	1,010	1,050	2,335	726	3.40
	<i>Mil. acres</i>		<i>lb./acre</i>				<i>Mil. cwt (rough equiv.)</i>					<i>\$/cwt</i>
Rice <sup>6</sup>												
1993/94	0.7	2.9	2.8	5,510.4	156.1	202.5	--	6/ 101.4	75.3	176.7	25.8	7.98
1994/95	0.3	3.4	3.3	5,964.4	197.8	230.9	--	6/ 100.7	98.9	199.6	31.3	6.78
1995/96*	0.5	3.1	3.1	5,621.4	173.9	212.6	--	6/ 104.6	83.0	187.6	25.0	9.15
1996/97*	--	2.8	2.8	6,120.8	171.3	206.3	--	6/ 100.7	78.4	179.1	27.2	9.96
1997/98*	--	3.1	3.0	5,896.4	178.9	215.1	--	6/ 107.9	83.0	190.9	24.2	9.60-9.80
	<i>Mil. acres</i>		<i>Bu./acre</i>				<i>Mil. bu.</i>					<i>\$/bu.</i>
Corn												
1993/94	10.9	73.2	62.9	100.7	6,336	8,470	4,683	1,609	1,328	7,620	850	2.50
1994/95	2.4	79.2	72.9	138.6	10,103	10,962	5,523	1,704	2,177	9,405	1,558	2.26
1995/96*	7.7	71.2	65.0	113.5	7,374	8,948	4,682	1,612	2,228	8,522	426	3.24
1996/97*	--	79.5	73.1	127.1	9,293	9,733	5,362	1,692	1,795	8,849	883	2.71
1997/98*	--	80.2	73.7	127.0	9,366	10,259	5,700	1,825	1,525	9,050	1,209	2.45-2.55
	<i>Mil. acres</i>		<i>Bu./acre</i>				<i>Mil. bu.</i>					<i>\$/bu.</i>
Sorghum												
1993/94	2.3	9.9	8.9	59.9	534	709	456	4	202	662	48	2.31
1994/95	1.6	9.8	8.9	72.8	649	697	400	3	223	625	72	2.13
1995/96*	1.7	9.5	8.3	55.6	460	532	305	11	198	514	18	3.19
1996/97*	--	13.2	11.9	67.5	803	821	529	40	205	774	47	2.34
1997/98*	--	10.1	9.4	69.5	653	701	425	35	200	660	41	2.20-2.30
	<i>Mil. acres</i>		<i>Bu./acre</i>				<i>Mil. bu.</i>					<i>\$/bu.</i>
Barley												
1993/94	2.5	7.8	6.8	58.9	398	621	244	172	66	482	139	1.99
1994/95	2.7	7.2	6.7	56.2	375	580	228	173	66	467	113	2.03
1995/96*	2.9	6.7	6.3	57.3	360	513	179	172	62	413	100	2.89
1996/97*	--	7.1	6.8	58.5	396	532	220	172	31	423	109	2.74
1997/98*	--	6.9	6.4	58.3	374	524	160	172	75	407	117	2.35
	<i>Mil. acres</i>		<i>Bu./acre</i>				<i>Mil. bu.</i>					<i>\$/bu.</i>
Oats												
1993/94	0.8	7.9	3.8	54.4	207	427	225	93	3	321	106	1.36
1994/95	0.6	6.6	4.0	57.1	229	428	234	92	1	327	101	1.22
1995/96*	0.8	6.3	3.0	54.7	162	343	183	92	2	277	66	1.67
1996/97*	--	4.7	2.7	57.8	155	319	155	95	3	252	67	1.96
1997/98*	--	5.2	2.9	60.5	176	353	175	95	2	272	81	1.60
	<i>Mil. acres</i>		<i>Bu./acre</i>				<i>Mil. bu.</i>					<i>\$/bu.</i>
Soybeans <sup>7</sup>												
1993/94	--	60.1	57.3	32.6	1,871	2,170	7/ 96	1,276	589	1,961	209	6.40
1994/95	--	61.7	60.9	41.4	2,517	2,731	7/ 153	1,405	838	2,396	335	5.48
1995/96*	--	62.6	61.6	35.3	2,177	2,516	7/ 112	1,370	851	2,333	183	6.72
1996/97*	--	64.2	63.4	37.6	2,382	2,575	7/ 126	1,436	882	2,443	131	7.35
1997/98*	--	70.9	69.9	39.0	2,727	2,865	7/ 160	1,525	945	2,630	235	6.35-6.65
								<i>Mil. lbs.</i>				<i>¢/lb.</i>
Soybean oil												
1993/94	--	--	--	--	13,951	15,574	--	12,941	1,529	14,471	1,103	27.10
1994/95	--	--	--	--	15,613	16,733	--	12,916	2,680	15,597	1,137	27.58
1995/96*	--	--	--	--	15,240	16,472	--	13,465	992	14,457	2,015	24.75
1996/97*	--	--	--	--	15,743	17,811	--	14,247	2,045	16,291	1,520	22.50
1997/98*	--	--	--	--	17,085	18,670	--	14,600	2,900	17,500	1,170	26.50-27.50
								<i>1,000 tons</i>				<i>\$/ton<sup>8</sup></i>
Soybean meal												
1993/94	--	--	--	--	30,514	30,788	--	25,283	5,356	30,639	150	192.9
1994/95	--	--	--	--	33,270	33,483	--	26,542	6,717	33,260	223	162.6
1995/96*	--	--	--	--	32,527	32,826	--	26,611	6,002	32,613	212	236.0
1996/97*	--	--	--	--	34,209	34,523	--	27,322	6,994	34,316	207	270.9
1997/98*	--	--	--	--	36,018	36,300	--	28,150	7,900	36,050	250	185-195

See footnotes at end of table, next page

Table 17—Supply &amp; Utilization (continued)

	Area			Yield	Production	Total Supply <sup>4</sup>	Feed & residual	Other domestic use	Exports	Total Use	Ending stocks	Farm price <sup>5</sup>
	Set aside <sup>3</sup>	Planted	Harvested									
	<i>Mil. acres</i>			<i>Lb./acre</i>								<i>¢/lb.</i>
Cotton <sup>9</sup>												
1993/94	1.4	13.4	12.8	606.0	16.1	20.8	--	10.4	6.9	17.3	3.5	58.1
1994/95	1.7	13.7	13.3	708.0	19.7	23.2	--	11.2	9.4	20.6	2.7	72.0
1995/96*	0.3	16.9	16.0	536.0	17.9	21.0	--	10.7	7.7	18.3	2.6	75.40
1996/97*	--	14.6	12.9	707.0	18.9	22.0	--	11.1	6.9	18.1	4.0	69.30
1997/98*	--	13.8	13.3	681.0	18.8	23.0	--	11.5	7.5	19.0	3.9	--

-- = Not available or not applicable. \*April 9, 1998 Supply and Demand Estimates. 1. Marketing year beginning June 1 for wheat, barley, and oats, August 1 for cotton and rice, September 1 for soybeans, corn, and sorghum, October 1 for soybean meal and soybean oil. 2. Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3. Includes diversion, acreage reduction, 50-92, & 0-92 programs. 0/92 & 50/92 set-aside includes idled acreage and acreage planted to minor oilseeds, sesame, and crambe. 4. Includes imports. 5. Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding and government purchases. 6. Residual included in domestic use. 7. Includes seed. 8. Simple average of 48 percent, Decatur. 9. Upland and extra-long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply and use estimates and changes in ending stocks. *Information contacts: Wheat, rice, feed grains, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

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

	Marketing year <sup>1</sup>			1997				1998		
	1994/95	1995/96	1996/97	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Wheat, no. 1 HRW, Kansas City (\$/bu.) <sup>2</sup>	7.50	5.49	4.88	4.58	3.88	3.87	3.72	3.61	3.64	3.61
Wheat, DNS, Minneapolis (\$/bu.) <sup>3</sup>	4.26	5.72	4.97	4.62	4.35	4.42	4.27	4.12	4.15	4.26
Rice, S.W. La. (\$/cwt) <sup>4</sup>	14.55	18.90	20.34	20.44	18.94	19.25	19.15	19.00	19.00	18.57
Corn, no. 2 yellow, 30-day, Chicago (\$/bu.)	2.43	3.97	2.84	3.05	2.76	2.77	2.70	2.73	2.72	2.71
Sorghum, no. 2 yellow, Kansas City (\$/cwt)	4.10	6.66	4.54	4.88	4.36	4.30	4.26	4.33	4.36	4.40
Barley, feed, Duluth (\$/bu.)	2.02	2.67	2.32	2.22	2.05	1.98	1.66	1.58	1.56	1.51
Barley, malting Minneapolis (\$/bu.)	2.75	3.69	3.18	--	2.74	--	--	--	--	--
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.) <sup>5</sup>	88.10	83.00	71.60	71.12	70.80	69.50	68.90	64.60	63.66	67.04
Northern Europe prices cotton index (¢/lb.) <sup>6</sup>	92.70	85.60	78.70	80.26	79.50	77.60	77.10	74.70	68.68	68.41
U.S. M 1-3/32 in. (¢/lb.) <sup>7</sup>	99.70	94.70	82.90	82.63	82.50	80.50	79.80	77.30	74.50	75.38
Soybeans, no. 1 yellow, 30-day Chicago (\$/bu)	5.48	6.72	7.38	8.33	6.49	6.75	7.18	6.92	6.75	6.55
Soybean oil, crude, Decatur (¢/lb.)	27.60	24.75	22.50	23.29	22.88	24.31	25.73	25.08	26.51	27.09
Soybean meal, 48% protein, Decatur (\$/ton)	162.55	236.00	270.90	280.50	278.30	229.30	245.30	222.50	192.75	174.20

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

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

		Payment rates					Flexibility			
	Target price	Basic loan rate	Findley or announced loan rate <sup>1</sup>	Total deficiency	Effective base acres <sup>2</sup>	Program <sup>3</sup>	contract payment rate	Acres under contract	Contract payment yields	Participation rate <sup>4</sup>
					<i>Mil. acres</i>	<i>Percent of base</i>	<i>\$/bu.</i>	<i>Mil. acres</i>	<i>Bu./cwt</i>	<i>Percent</i>
Wheat		<i>\$/bu.</i>								
1993/94	4.00	2.86	2.45	1.03	78.50	0/0/0	--	--	--	88
1994/95	4.00	2.72	2.58	0.61	78.10	0/0/0	--	--	--	87
1995/96	4.00	2.69	2.58	0.00	77.70	0/0/0	--	--	--	85
1996/97	--	--	2.58	--	--	--	0.874	76.4	34.70	99
1997/98 <sup>8</sup>	--	--	2.58	--	--	--	0.610	76.1	34.60	99
		<i>\$/cwt</i>					<i>\$/cwt</i>			
Rice										
1993/94	10.71	6.50	5.53 <sup>5</sup>	3.98	4.10	5/0/0	--	--	--	97
1994/95	10.71	6.50	5.88 <sup>5</sup>	3.79	4.20	0/0/0	--	--	--	95
1995/96	10.71	6.50	6.50 <sup>5</sup>	3.22 <sup>9</sup>	4.20	5/0/0	--	--	--	95
1996/97	--	6.50	--	--	--	--	2.766	4.1	48.15	99
1997/98 <sup>8</sup>	--	6.50	--	--	--	--	2.740	4.1	48.09	99
		<i>\$/bu.</i>					<i>\$/bu.</i>			
Corn										
1993/94	2.75	1.99	1.72	0.28	81.80	10/0/0	--	--	--	76
1994/95	2.75	1.99	1.89	0.57	81.50	0/0/0	--	--	--	81
1995/96	2.75	1.94	1.89	0.00	81.80	7.5/0/0	--	--	--	82
1996/97	--	--	1.89	--	--	--	0.251	80.5	102.90	98
1997/98 <sup>8</sup>	--	--	1.89	--	--	--	0.460	80.4	102.80	98
		<i>\$/bu.</i>					<i>\$/bu.</i>			
Sorghum										
1993/94	2.61	1.89	1.63	0.25	13.50	5/0/0	--	--	--	82
1994/95	2.61	1.89	1.80	0.59	13.50	0/0/0	--	--	--	81
1995/96	2.61	1.84	1.80	0.00	13.30	0/0/0	--	--	--	77
1996/97	--	--	1.81	--	--	--	0.323	13.0	57.30	99
1997/98 <sup>8</sup>	--	--	1.76	--	--	--	0.500	13.0	57.30	99
		<i>\$/bu.</i>					<i>\$/bu.</i>			
Barley										
1993/94	2.36	1.62	1.40	0.67	10.80	0/0/0	--	--	--	83
1994/95	2.36	1.62	1.54	0.52	10.70	0/0/0	--	--	--	84
1995/96	2.36	1.58	1.54	0.00	10.70	0/0/0	--	--	--	82
1996/97	--	--	1.55	--	--	--	0.332	10.5	47.30	99
1997/98 <sup>8</sup>	--	--	1.57	--	--	--	0.250	10.5	47.20	99
		<i>\$/bu.</i>					<i>\$/bu.</i>			
Oats										
1993/94	1.45	1.02	0.88	0.11	7.10	0/0/0	--	--	--	46
1994/95	1.45	1.02	0.97	0.19	6.80	0/0/0	--	--	--	40
1995/96	1.45	1.00	0.97	0.00	6.50	0/0/0	--	--	--	44
1996/97	--	--	1.03	--	--	--	0.033	6.2	50.80	97
1997/98 <sup>8</sup>	--	--	1.11	--	--	--	0.030	6.2	50.80	97
		<i>\$/bu.</i>					<i>\$/bu.</i>			
Soybeans <sup>6</sup>										
1993/94	--	--	5.02	--	--	--	--	--	--	--
1994/95	--	--	4.92	--	--	--	--	--	--	--
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
		<i>Cents/lb.</i>					<i>Cents/lb.</i>			
Upland cotton										
1993/94	72.90	52.35	47.50 <sup>7</sup>	18.60	15.10	7.5/0/0	--	--	--	91
1994/95	72.90	50.00	50.00 <sup>7</sup>	4.60	15.30	11/0/0	--	--	--	89
1995/96	72.90	51.92	51.92 <sup>7</sup>	0.00 <sup>9</sup>	15.50	0/0/0	--	--	--	79
1996/97	--	51.92	--	--	--	--	8.882	16.0	606.00	99
1997/98 <sup>8</sup>	--	51.92	--	--	--	--	7.400	16.2	609.00	99

-- = 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. Stating in 1996, participation rate is the percent of eligible acres that entered production flexibility contracts. 5. A marketing loan has been in effect for rice since 1985/86. Loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly). Loans cannot be repaid at less than a specified fraction of the loan rate. Data refer to marketing-year average loan repayment rates. Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. 6. There are no target prices, base acres, acreage reduction programs, or deficiency payment rates for soybeans. 7. A marketing loan has been in effect for cotton since 1986/87. In 1987/88 and after, loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly; Plan B). Starting in 1991/92, loans cannot be repaid at less than 70 percent of the loan rate. Data refer to annual average loan repayment rates. Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. 8. Estimated payment rates and acres under contract. 9. Guaranteed payment rates for producers in the 50/85/92 program were \$0.034/lb. for upland cotton and \$4.21/cwt. for rice.

*Note: The 1996 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

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Citrus <sup>1</sup>										
Production (1,000 tons)	12,761	13,186	10,860	11,285	12,452	15,274	14,561	15,799	16,009	17,468
Per capita consumpt. (lb.) <sup>2</sup>	25.4	23.6	21.4	19.1	24.4	26.0	25.0	24.1	24.9	27.6
Noncitrus <sup>3</sup>										
Production (1,000 tons)	15,911	16,345	15,640	15,740	17,124	16,563	17,341	16,356	16,117	17,656
Per capita consumpt. (lb.) <sup>2</sup>	71.7	72.3	70.7	70.6	74.5	73.1	75.6	73.9	73.7	73.5
	1997					1998				
	Mar	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Grower prices										
Apples (cents/pound) <sup>4</sup>	17.6	14.1	19.2	24.2	24.0	22.1	23.7	22.3	21.6	21.3
Pears (cents/pound) <sup>4</sup>	23.1	15.5	16.5	18.0	16.7	16.5	14.4	12.7	13.0	12.2
Oranges (\$/box) <sup>5</sup>	4.46	5.08	6.93	6.95	3.69	2.15	2.53	2.58	3.53	4.75
Grapefruit (\$/box) <sup>5</sup>	0.90	6.92	5.78	4.18	4.15	2.49	2.57	1.79	1.61	1.03
Stocks, ending										
Fresh apples (mil. lb.)	2,429	296	85	2,968	5,701	5,165	4,423	3,729	2,841	2,277
Fresh pears (mil. lb.)	82	65	117	616	585	446	337	273	212	127
Frozen fruits (mil. lb.)	766	939	1,029	1,051	1,440	1,356	1,233	1,128	1,009	877
Frozen conc. orange juice (mil. single-strength gallons)	715	719	641	526	466	496	614	794	828	827

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) 694-5257

Table 21—Vegetables

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Production <sup>1</sup>										
Total vegetables (1,000 cwt)	467,915	543,435	562,938	565,754	677,975	675,793	762,934	742,595	759,347	752,266
Fresh (1,000 cwt) <sup>2,4</sup>	240,249	254,418	254,039	242,733	393,249	377,698	396,671	391,699	408,823	428,171
Processed (tons) <sup>3,4</sup>	11,383,320	14,450,860	15,444,970	16,151,030	14,236,320	14,904,750	18,313,150	17,544,780	17,526,190	16,204,740
Mushrooms (1,000 cwt) <sup>5</sup>	667,759	714,992	749,151	746,832	776,357	750,799	782,340	777,870	776,677	--
Potatoes (1,000 cwt)	356,438	370,444	402,110	417,622	425,367	428,693	467,054	443,606	498,633	459,912
Sweetpotatoes (1,000 cwt)	10,945	11,358	12,594	11,203	12,005	11,053	13,395	12,906	13,456	13,025
Dry edible beans (1,000 cwt)	19,253	23,729	32,379	33,765	22,615	21,913	29,028	30,812	27,960	29,156
	1997					1998				
	Mar	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Shipments (1,000 cwt)										
Fresh	21,286	25,006	16,857	14,732	19,060	18,525	16,843	23,713	18,723	20,292
Iceberg lettuce	3,386	3,722	3,225	3,195	3,417	3,144	2,584	4,089	3,233	3,094
Tomatoes, all	3,686	3,747	2,648	2,356	3,367	2,737	3,196	4,189	3,057	3,647
Dry-bulb onions	2,885	3,559	3,162	3,437	4,172	3,270	2,997	4,075	3,436	2,753
Others <sup>6</sup>	11,329	13,978	7,822	5,744	8,104	9,374	8,066	11,360	8,997	10,798
Potatoes, all	14,469	10,661	8,352	9,589	13,328	12,180	11,925	16,328	11,870	15,619
Sweetpotatoes	278	168	127	152	375	636	172	146	180	252

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

Table 22—Other Commodities

	Annual			1996			1997			
	1994	1995	1996	II	III	IV	I	II	III	IV
Sugar										
Production <sup>1</sup>	7,669	7,977	7,268	694	570	3,874	2,075	679	576	4,088
Deliveries <sup>1</sup>	9,321	9,451	9,633	2,390	2,557	2,471	2,215	2,436	2,643	2,470
Stocks, ending <sup>1</sup>	3,139	2,904	3,195	2,285	1,492	3,195	3,901	2,734	1,485	3,376
Coffee										
Composite green price N.Y. (cents/lb.)	138.62	142.18	104.74	109.46	103.13	98.82	134.80	172.99	143.29	134.89
Imports, green bean equiv. (mil. lbs.) <sup>2</sup>	2,048	2,182	2,494	571	570	639	--	--	--	--
	Annual			1996			1997			
	1994	1995	1996	Dec	Jul	Aug	Sep	Oct	Nov	Dec
Tobacco										
Avg. price to grower <sup>3</sup>										
Flue-cured (\$/lb.)	1.698	1.790	1.834	--	1.585	1.600	1.725	1.785	1.760	--
Burley (\$/lb.)	1.814	1.854	1.922	1.920	--	--	--	--	1.905	1.915
Domestic consumption <sup>4</sup>										
Cigarettes (bil.)	488.6	487.3	486.0	37.2	40.1	50.5	49.4	37.7	38.4	42.2
Large cigars (mil.)	2,290.8	2,561.6	3,166.4	218.9	270.3	293.6	267.4	264.2	263.2	236.4

-- = 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, Oct.-Sept. for burley. 4. Taxable removals. Information contacts: Sugar, Fannye Lockley (202) 694-5249; tobacco, Tom Capehart (202) 694-524.

## World Agriculture

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

	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
<i>Million units</i>										
<b>Wheat</b>										
Area (hectares)	217.4	225.8	231.4	222.5	223.2	222.4	215.2	219.5	230.7	229.3
Production (metric tons)	495.0	533.2	588.0	543.0	562.3	559.3	524.6	537.5	582.4	609.8
Exports (metric tons) <sup>1</sup>	104.6	103.8	100.7	110.8	112.2	100.2	98.2	95.5	97.7	96.1
Consumption (metric tons) <sup>2</sup>	524.3	532.7	561.9	555.6	550.3	562.3	548.1	550.2	577.6	585.2
Ending stocks (metric tons) <sup>3</sup>	118.4	118.9	145.1	132.5	144.6	141.6	118.0	105.3	110.1	134.7
<b>Coarse grains</b>										
Area (hectares)	324.2	321.8	316.2	321.8	323.8	317.6	323.4	313.7	322.4	315.2
Production (metric tons)	722.9	793.5	828.6	810.3	871.8	799.5	873.6	801.9	908.1	898.9
Exports (metric tons) <sup>1</sup>	98.0	104.7	89.1	95.9	92.3	85.8	97.5	88.9	93.2	87.6
Consumption (metric tons) <sup>2</sup>	788.1	817.5	817.0	809.8	843.9	838.8	861.1	842.5	881.5	897.3
Ending stocks (metric tons) <sup>3</sup>	147.2	123.2	134.8	135.4	163.1	123.8	136.3	95.7	122.3	123.9
<b>Rice, milled</b>										
Area (hectares)	146.1	146.5	146.6	147.3	146.7	145.5	147.9	148.0	149.0	148.7
Production (metric tons)	331.4	343.8	352.0	354.7	355.7	355.5	364.5	371.2	379.9	381.4
Exports (metric tons) <sup>1</sup>	13.9	11.7	12.1	14.1	14.9	16.4	21.0	19.6	18.9	21.5
Consumption (metric tons) <sup>2</sup>	327.3	338.4	347.4	356.3	357.8	358.7	367.1	371.1	377.4	379.3
Ending stocks (metric tons) <sup>3</sup>	48.8	54.3	58.9	57.2	55.0	51.9	49.3	49.4	51.9	54.0
<b>Total grains</b>										
Area (hectares)	687.7	694.1	694.2	691.6	693.7	685.5	686.5	681.2	702.1	693.2
Production (metric tons)	1,549.3	1,670.5	1,768.6	1,708.0	1,789.8	1,714.3	1,762.7	1,710.6	1,870.4	1,890.1
Exports (metric tons) <sup>1</sup>	216.5	220.2	201.9	220.8	219.4	202.4	216.7	204.0	209.8	207.2
Consumption (metric tons) <sup>2</sup>	1,639.7	1,688.6	1,726.3	1,721.7	175.2	1,759.8	1,776.3	1,763.8	1,836.5	1,861.8
Ending stocks (metric tons) <sup>3</sup>	314.4	296.4	338.8	325.1	362.7	317.3	303.6	250.4	284.3	312.6
<b>Oilseeds</b>										
Crush (metric tons)	164.5	171.7	176.7	185.1	184.4	190.1	208.6	217.8	219.3	227.1
Production (metric tons)	201.6	212.4	215.7	224.3	227.5	229.4	262.9	259.7	261.4	282.8
Exports (metric tons)	31.5	35.6	33.4	37.6	38.2	38.7	44.1	44.3	48.7	50.8
Ending stocks (metric tons)	22.1	23.7	23.4	21.9	23.6	20.3	27.2	22.2	16.9	22.9
<b>Meals</b>										
Production (metric tons)	111.1	116.8	119.3	125.2	125.2	131.7	142.3	147.5	149.5	155.3
Exports (metric tons)	37.4	39.8	40.7	42.2	40.8	44.9	46.7	49.8	50.1	51.4
<b>Oils</b>										
Production (metric tons)	53.3	57.1	58.1	60.6	61.1	63.7	69.7	73.3	75.2	77.1
Exports (metric tons)	18.1	20.4	20.5	21.3	21.3	24.3	27.1	25.8	28.1	28.5
<b>Cotton</b>										
Area (hectares)	33.8	31.6	33.2	34.8	32.6	30.7	32.2	35.9	33.8	33.7
Production (bales)	84.4	79.7	87.1	95.7	82.5	76.7	85.6	93.0	89.2	89.2
Exports (bales)	33.4	31.3	29.8	28.2	25.6	26.7	28.4	27.9	26.5	26.4
Consumption (bales)	85.2	86.9	85.6	86.0	85.8	85.5	85.6	87.0	88.6	88.2
Ending stocks (bales)	30.8	24.8	26.9	37.0	34.4	26.3	28.3	33.8	36.3	37.5
	1989	1990	1991	1992	1993	1994	1995	1996	1997	
<b>Red meat<sup>4</sup></b>										
Production (metric tons)		112.3	116.9	117.7	117.3	118.2	123.3	128.8	135.1	136.2
Consumption (metric tons)		110.9	114.8	116.1	115.7	117.2	122.3	127.4	132.4	134.4
Exports (metric tons) <sup>1</sup>		8.2	7.5	7.5	7.4	7.3	8.0	8.1	8.5	8.2
<b>Poultry<sup>4</sup></b>										
Production (metric tons)		33.1	37.6	39.6	38.0	40.5	43.9	47.7	50.5	53.8
Consumption (metric tons)		32.6	36.5	38.4	37.0	39.4	42.5	46.2	48.9	52.0
Exports (metric tons) <sup>1</sup>		1.7	2.4	2.8	2.4	2.8	3.7	4.6	5.3	5.9
<b>Dairy</b>										
Milk production (metric tons) <sup>5</sup>		387.4	395.0	377.6	378.4	377.6	378.4	380.8	379.8	381.2

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

## U.S. Agricultural Trade

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

	Annual			1997				1998		
	1995	1996	1997	Mar	Oct	Nov	Dec	Jan	Feb	Mar
<b>Export commodities</b>										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	4.82	5.63	4.35	4.82	4.16	4.09	3.95	3.78	3.81	3.79
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	3.13	4.17	2.98	3.24	3.05	2.99	2.90	2.91	2.89	2.90
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	3.13	3.90	2.89	3.14	2.92	2.90	2.85	2.88	2.87	2.83
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	6.50	7.88	7.94	8.60	7.15	7.48	7.23	7.00	7.03	6.83
Soybean oil, Decatur (cents/lb.)	26.75	23.75	23.33	23.29	24.31	25.73	25.08	25.09	26.51	27.09
Soybean meal, Decatur, (\$/ton)	173.70	246.67	266.70	280.53	229.28	245.34	225.52	202.84	192.75	174.20
Cotton, 7-market avg. spot (cents/lb.)	93.45	77.93	69.62	71.13	69.46	65.35	64.57	62.86	63.66	67.04
Tobacco, ag. price at auction (cents/lb.)	178.79	183.20	182.74	189.98	178.48	184.46	192.05	192.05	195.96	177.45
Rice, f.o.b., mill, Houston (\$/cwt)	16.68	19.64	20.88	21.75	19.75	19.75	19.75	19.75	19.75	19.05
Inedible tallow, Chicago (cents/lb.)	19.22	20.13	20.75	19.35	22.13	22.88	22.60	18.20	16.88	17.53
<b>Import commodities</b>										
Coffee, N.Y. spot (\$/lb.)	1.45	1.29	2.05	2.19	1.67	1.60	1.76	1.76	1.86	1.62
Rubber, N.Y. spot (cents/lb.)	82.52	72.88	55.40	63.53	51.35	48.14	40.61	40.21	43.96	41.70
Cocoa beans, N.Y. (\$/lb.)	0.61	0.62	0.69	0.65	0.76	0.73	0.76	0.73	0.71	0.74

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

Table 25—Indexes of Real Trade-Weighted Dollar Exchange Rates<sup>1</sup>

	Annual			1997				1998	
	1995	1996	1997	Feb	Sep P	Oct P	Nov P	Dec P	Jan P
<i>1990=100</i>									
Total U.S. trade	105.7	110.0	111.8	110.0	112.7	111.9	114.5	116.9	116.2
Agricultural trade									
U.S. markets	103.0	105.3	106.2	105.3	106.3	109.2	113.7	116.0	114.5
U.S. competitors	99.8	102.8	106.0	102.8	108.5	107.7	111.0	114.9	114.9
Wheat									
U.S. markets	101.9	102.9	104.1	102.9	105.1	107.1	111.7	114.5	112.8
U.S. competitors	105.2	107.8	110.1	107.8	111.9	112.0	114.2	116.0	115.3
Soybeans									
U.S. markets	101.1	104.6	105.6	104.6	105.9	108.2	112.5	115.2	113.8
U.S. competitors	64.4	64.4	65.4	64.6	66.2	66.3	66.6	67.2	67.3
Corn									
U.S. markets	101.3	103.7	103.9	103.7	103.9	108.3	113.8	116.1	113.8
U.S. competitors	94.1	95.9	98.7	95.8	100.1	99.4	101.6	104.0	104.0
Cotton									
U.S. markets	98.8	100.4	104.2	100.4	107.0	109.9	122.8	135.0	130.7
U.S. competitors	107.5	108.3	108.3	108.6	109.4	109.4	109.4	109.4	109.4

P = preliminary. 1. Real indexes adjust nominal exchange rates to avoid the distortion caused by different levels of inflation among countries. A higher value means the dollar has appreciated. "Total U.S. Trade" index uses the Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major countries. Weights are based on relative importance of major U.S. customers and competitors in world markets. Indexes are subject to revision for up to one year due to delayed reporting by some countries. Information contact: Tim Baxter (202) 694-5318 or Andy Jerado (202) 694-5323

Table 26—Trade Balance

	Calendar Year <sup>1</sup>			1997					1998	
	1996	1997	1998 F	Jan	Aug	Sep	Oct	Nov	Dec	Jan
<i>\$ million</i>										
<b>Exports</b>										
Agricultural	60,445	57,245	56,000	4,999	4,427	4,489	5,534	5,481	5,243	4,809
Nonagricultural	521,692	585,977	--	42,203	48,161	49,253	52,322	49,288	50,779	46,726
Total <sup>2</sup>	582,137	643,222	--	47,202	52,588	53,742	57,856	54,769	56,022	51,535
<b>Imports</b>										
Agricultural	33,643	36,289	38,000	2,979	2,848	2,900	3,052	2,840	3,262	3,197
Nonagricultural	756,827	828,412	--	64,256	69,740	73,215	77,905	68,044	71,032	67,198
Total <sup>3</sup>	790,470	864,701	--	67,235	72,588	76,115	80,957	70,884	74,294	70,395
<b>Trade Balance</b>										
Agricultural	26,802	20,956	18,000	2,020	1,579	1,589	2,482	2,641	1,981	1,612
Nonagricultural	-235,135	-242,435	--	-22,053	-21,579	-23,962	-25,583	-18,756	-20,253	-20,472
Total	-208,333	-221,479	--	-20,033	-20,000	-22,373	-23,101	-16,115	-18,272	-18,860

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

Table 27—U.S. Agricultural Exports &amp; Imports

	Calendar year			Feb		Calendar year			Feb	
	1996	1997	1998	1997	1998	1996	1997	1998	1997	1998
	1,000 units					\$ million				
EXPORTS										
Animals, live (no.) <sup>1</sup>	595	1,802	--	61	271	427	566	--	29	42
Meats and preps., excl. poultry (mt) <sup>2</sup>	1,849	1,924	1,400	147	161	4,590	4,597	4,000	341	346
Dairy products (mt) <sup>1</sup>	109	125	--	6	12	727	932	900	65	84
Poultry meats (mt)	2,388	2,585	2,600	210	215	2,483	2,423	--	203	183
Fats, oils, and greases (mt)	1,257	1,089	900	61	92	614	562	--	34	45
Hides and skins incl. furskins	--	--	--	--	--	1,675	1,651	1,500	158	116
Cattle hides, whole (no.) <sup>1</sup>	21,410	20,113	--	1,703	1,667	1,176	1,187	--	104	81
Mink pelts (no.) <sup>1</sup>	3,441	3,763	--	1,051	341	110	97	--	22	7
Grains and feeds (mt) <sup>3</sup>	106,131	91,061	--	7,356	7,325	20,863	15,361	15,300	1,281	1,226
Wheat (mt) <sup>4</sup>	30,946	25,264	28,000	1,549	1,875	6,265	4,095	4,400	266	283
Wheat flour (mt)	491	508	500	38	54	147	138	--	11	12
Rice (mt)	2,839	2,508	2,700	261	412	1,029	932	1,000	100	143
Feed grains, incl. products (mt) <sup>5</sup>	58,687	49,032	47,900	4,412	4,039	9,575	6,211	5,600	576	498
Feeds and fodders (mt)	11,842	12,352	12,700	974	846	2,646	2,669	2,600	223	187
Other grain products (mt)	1,325	1,397	--	122	100	1,200	1,316	--	106	103
Fruits, nuts, and preps. (mt)	3,689	3,896	--	316	265	4,282	4,235	4,500	301	253
Fruit juices incl.										
froz. (1,000 hectoliters) <sup>1</sup>	9,719	10,689	--	845	872	634	662	--	53	49
Vegetables and preps. (mt)	3,142	3,402	--	233	278	3,822	4,152	2,800	324	327
Tobacco, unmanufactured (mt)	222	222	--	24	17	1,390	1,553	1,600	146	111
Cotton, excl. linters (mt) <sup>6</sup>	1,497	1,568	1,600	159	169	2,715	2,682	2,700	279	278
Seeds (mt)	895	1,098	--	122	73	795	884	900	110	105
Sugar, cane or beat (mt) <sup>1</sup>	244	125	--	9	7	95	54	--	4	3
Oilseeds and products (mt)	34,213	36,665	36,700	3,993	4,047	10,792	12,057	11,200	1,233	1,193
Oilseeds (mt)	26,181	26,764	--	2,942	2,665	7,875	8,326	--	874	733
Soybeans (mt)	25,566	26,023	25,900	2,868	2,579	7,324	7,379	6,700	821	682
Protein meal (mt)	6,131	7,311	--	841	1,091	1,542	1,966	--	223	252
Vegetable oils (mt)	1,901	2,590	--	211	292	1,375	1,766	--	136	208
Essential oils (mt)	44	45	--	4	4	593	588	--	47	41
Other	132	173	--	10	10	3,948	4,287	--	320	326
Total	155,812	143,978	149,200	12,650	12,675	60,445	57,245	56,000	4,927	4,727
IMPORTS										
Animals, live (no.) <sup>1</sup>	4,871	5,331	--	424	511	1,545	1,594	1,600	115	132
Meats and preps., excl. poultry (mt)	1,039	1,154	1,200	81	97	2,295	2,630	2,800	187	215
Beef and veal (mt)	708	797	--	53	68	1,341	1,609	--	102	137
Pork (mt)	252	261	--	21	21	728	754	--	64	56
Dairy products (mt) <sup>1</sup>	347	354	--	27	24	1,274	1,225	1,400	84	89
Poultry and products <sup>1</sup>	--	--	--	--	--	181	195	--	13	16
Fats, oils, and greases (mt)	59	80	--	5	6	49	60	--	4	5
Hides and skins, incl. furskins (mt)	--	--	--	--	--	205	206	--	19	17
Wool, unmanufactured (mt)	44	44	--	3	3	152	154	--	10	11
Grains and feeds (mt)	6,784	8,342	8,700	710	576	2,657	2,963	3,200	226	218
Fruits, nuts, and preps.,										
excl. juices (mt) <sup>7</sup>	6,962	7,252	7,500	610	667	3,640	3,837	5,100	335	355
Bananas and plantains (mt)	4,001	3,998	4,000	295	344	1,184	1,220	1,300	89	93
Fruit juices (1,000 hectoliters) <sup>1</sup>	28,002	27,807	30,000	2,137	1,714	913	829	--	67	46
Vegetables and preps. (mt)	4,071	4,218	4,800	469	503	3,526	3,707	4,000	354	407
Tobacco, unmanufactured (mt)	302	294	400	24	22	923	1,089	1,400	86	81
Cotton, unmanufactured (mt)	189	17	--	2	1	300	20	--	3	1
Seeds (mt)	199	224	--	19	19	310	371	--	28	27
Nursery stock and cut flowers <sup>1</sup>	--	--	--	--	--	952	1,004	1,200	105	113
Sugar, cane or beet (mt)	2,891	2,913	--	288	129	1,087	984	--	102	58
Oilseeds and products (mt)	3,419	3,963	3,600	278	338	2,147	2,242	2,100	168	172
Oilseeds (mt)	776	1,035	--	66	77	330	384	--	25	27
Protein meal (mt)	1,001	1,048	--	67	111	179	188	--	13	17
Vegetable oils (mt)	1,643	1,880	--	145	150	1,637	1,670	--	131	128
Beverages excl. fruit										
juices (1,000 hectoliters) <sup>1</sup>	20,138	23,792	--	1,454	1,716	2,903	3,375	--	195	233
Coffee, tea, cocoa, spices (mt)	2,256	2,265	--	182	246	4,797	6,048	--	424	647
Coffee, incl. products (mt)	1,123	1,180	1,200	114	119	2,788	3,886	3,400	297	406
Cocoa beans and products (mt)	821	767	800	47	105	1,400	1,471	1,600	85	191
Rubber and allied gums (mt)	1,034	1,068	1,100	93	77	1,468	1,229	1,300	114	68
Other	--	--	--	--	--	2,321	2,528	--	190	197
Total	--	--	--	--	--	33,643	36,289	38,000	2,830	3,107

-- = Not available. 1997 data are from *Foreign Agricultural Trade of the U.S.* Annual values for most recent year are forecasts from *Outlook for U.S.*

*Agricultural Exports.* 1. Not included in total volume. 2. Forecast includes only beef, pork, and variety meat. 3. Forecast includes pulses. 4. Forecast includes wheat flour. 5. Forecast excludes grain products. 6. Forecast includes linters. 7. Forecast includes juice. Note: totals include transshipments through Canada, but transshipments are not distributed by commodity as previously. Information contact: Mary Fant (202) 694-5272.

Table 28—U.S. Agricultural Exports by Region

Region & country	Calendar year			Feb		Change from year earlier			Feb	
	1996	1997	1998	1997	1998	1996	1997	1998	1997	1998
	\$ million					Percent				
WESTERN EUROPE	9,702	9,540	9,500	985	950	7	-2	--	1	-4
European Union <sup>1</sup>	9,322	8,918	8,800	959	917	7	-4	--	2	-4
Belgium-Luxembourg	749	668	--	57	54	14	-11	--	9	-5
France	524	570	--	48	64	-2	9	--	11	35
Germany	1,489	1,319	--	145	141	20	-11	--	24	-3
Italy	796	756	--	124	93	13	-5	--	8	-25
Netherlands	2,218	1,928	--	213	239	1	-13	--	-22	12
United Kingdom	1,233	1,312	--	96	104	15	6	--	-3	8
Portugal	291	249	--	39	19	7	-14	--	-8	-51
Spain incl. Canary Islands	1,124	1,140	--	130	112	-9	1	--	19	-13
Other Western Europe	380	622	700	26	32	10	64	--	-14	26
Switzerland	211	517	--	19	24	0	144	--	20	29
EASTERN EUROPE	439	282	300	24	35	44	-36	--	-31	46
Poland	232	121	--	13	19	96	-48	--	60	41
Former Yugoslavia	88	96	--	6	12	12	9	--	-60	82
Romania	57	16	--	1	1	-7	-72	--	103	60
NEWLY INDEPENDENT STATES	1,747	1,483	1,200	120	124	31	-15	--	-45	3
Russia	1,328	1,204	1,000	96	92	29	-9	--	-37	-5
ASIA <sup>2</sup>	28,560	25,624	21,500	2,379	1,876	1	-10	--	-4	-21
West Asia (Mideast)	2,513	2,553	2,500	247	177	1	2	--	-12	-28
Turkey	637	727	--	74	47	19	14	--	-29	-36
Iraq	3	82	--	0	6	31	2,913	--	0	3,535
Israel, incl. Gaza and W. Bank	617	537	500	74	43	28	-13	--	13	-42
Saudi Arabia	551	618	600	55	34	6	12	--	56	-39
South Asia	653	760	800	50	38	-36	16	--	-27	-24
Bangladesh	88	120	--	12	11	-60	37	--	128	-9
India	113	155	--	14	9	-42	38	--	55	-32
Pakistan	352	442	500	24	17	-22	26	--	-27	-29
China	2,092	1,600	1,600	162	176	-21	-24	--	-39	9
Japan	11,704	10,532	10,300	922	850	5	-10	--	-7	-8
Southeast Asia	3,270	2,988	2,300	335	175	7	-9	--	12	-48
Indonesia	852	772	--	98	21	4	-9	--	7	-79
Philippines	892	873	800	64	51	16	-2	--	-2	-20
Other East Asia	8,327	7,191	6,500	663	461	6	-14	--	17	-31
Korea, Rep.	3,871	2,857	2,400	313	184	3	-26	--	8	-41
Hong Kong	1,490	1,712	1,700	140	122	-1	15	--	48	-13
Taiwan	2,965	2,616	2,400	210	154	14	-12	--	15	-27
AFRICA	2,877	2,267	2,300	117	179	-3	-21	--	-60	53
North Africa	1,986	1,559	1,500	73	116	-4	-21	--	-65	60
Morocco	244	163	--	17	6	49	-33	--	-32	-62
Algeria	322	315	300	12	23	-25	-2	--	-49	91
Egypt	1,319	964	900	38	74	-4	-27	--	-76	94
Sub-Saharan	891	707	800	45	63	-3	-21	--	-47	41
Nigeria	190	115	--	4	11	51	-39	--	-66	146
Rep. S. Africa	309	220	--	18	14	10	-29	--	-55	-23
LATIN AMERICA and CARIBBEAN	10,486	10,363	10,800	762	989	30	-1	--	-7	30
Brazil	588	536	500	26	37	10	-9	--	-40	40
Caribbean Islands	1,419	1,501	--	110	127	10	6	--	-12	16
Central America	1,006	1,047	--	89	110	15	4	--	32	23
Colombia	631	538	--	42	54	33	-15	--	-23	28
Mexico	5,447	5,184	5,800	362	514	54	-5	--	-12	42
Peru	310	193	--	15	27	3	-38	--	-55	87
Venezuela	483	571	600	53	55	-1	18	--	46	4
CANADA	6,146	6,795	6,900	509	534	6	11	--	11	5
OCEANIA	489	550	600	33	41	-4	13	--	-13	27
TOTAL	60,445	57,245	56,000	4,927	4,727	7	-5	--	-7	-4
Developed countries	28,890	28,431	--	2,536	2,426	6	-2	--	-1	-4
Developing countries	27,681	25,687	--	2,103	1,998	10	-7	--	-7	-5
Other countries	3,873	3,128	--	288	303	-3	-19	--	-41	5

-- = Not available. Annual values for the most recent year are forecasts. 1. Austria, Finland, and Sweden are included in the European Union.

2. Asia forecasts exclude West Asia (Mideast). Note: Adjusted for transshipments through Canada, but transshipments are not distributed as previously.

Information contact: Mary Fant (202) 694-5272

## Farm Income

Table 29—Farm Income Statistics

	Calendar year									
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	\$ billion									
1. Farm receipts	169.4	177.8	176.1	179.5	186.6	190.4	197.8	213.3	212.9	209.0
Crops (incl. net CPC loans)	76.9	80.3	82.1	85.7	87.5	93.1	100.7	109.4	108.9	106.7
Livestock	83.9	89.2	85.8	85.6	90.2	88.2	87.0	92.9	92.6	91.3
Farm related <sup>1</sup>	8.6	8.2	8.2	8.2	9.0	9.2	10.1	11.0	11.4	11.0
2. Direct Government payments	10.9	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.9	7.4
Cash payments	9.1	8.4	8.2	9.2	13.4	7.9	7.3	7.3	7.9	7.4
Value of PIK commodities	1.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Gross cash income (1+2) <sup>2</sup>	180.3	187.1	184.3	188.7	200.1	198.3	205.0	220.6	220.8	216.4
4. Nonmoney income <sup>3</sup>	7.9	7.9	7.8	7.6	8.1	9.2	9.8	10.2	10.9	11.6
5. Value of inventory change	3.8	3.3	-0.2	4.2	-4.5	8.2	-3.9	2.7	1.3	0.1
6. Total gross farm income (3+4+5)	191.9	198.2	191.9	200.5	203.6	215.7	210.9	233.5	233.0	228.1
7. Cash expenses <sup>4</sup>	127.5	134.2	134.0	133.6	141.2	147.6	153.9	160.6	165.8	164.4
8. Total expenses	146.7	153.4	153.3	152.9	160.5	167.5	174.2	181.3	186.4	185.1
9. Net cash income (3-7)	52.8	52.9	50.3	55.1	58.8	50.7	51.2	59.9	55.0	52.0
10. Net farm income (6-8)	45.3	44.8	38.5	47.5	43.1	48.3	36.7	52.2	46.6	43.0

Values for last two years are preliminary or forecast. 1. Income from machine hire, custom work, sales of forest products, and other miscellaneous cash sources. 2. Numbers in parentheses indicate the combination of items required to calculate a given item. 3. Value of home consumption of self-produced food and imputed gross rental value of farm dwellings. 4. Excludes capital consumption, perquisites to hired labor, and farm household expenses. Total may not add because of rounding. Note: 1988-92 accounts (primarily expenses) have been revised to reflect improved methods for estimating farm income. Information contact: Dave Peacock (202) 694-5582

Table 30—Average Income to Farm Operator Households<sup>1</sup>

	1991	1992	1993	1994	1995	1996P	1997F	1998F
	\$ per farm							
Net cash farm business income <sup>2</sup>	10,678	11,320	11,248	11,389	11,218	13,502	--	--
Less depreciation <sup>3</sup>	5,127	5,187	6,219	6,466	6,795	6,906	--	--
Less wages paid to operator <sup>4</sup>	441	216	454	425	522	531	--	--
Less farmland rental income <sup>5</sup>	323	360	534	701	769	672	--	--
Less adjusted farm business income due to other household(s) <sup>6</sup>	1,093	961	872	815	649	1,094	--	--
	\$ per farm operator household							
Equals adjusted farm business income	3,694	4,596	3,168	2,981	2,484	4,300	--	--
Plus wages paid to operator	441	216	454	425	522	531	--	--
Plus net income from farmland rental <sup>7</sup>	323	360	--	--	1,053	1,178	--	--
Equal farm self-employment income	4,458	5,172	3,623	3,407	4,059	6,009	--	--
Plus other farm-related earnings <sup>8</sup>	1,352	2,008	1,192	970	661	1,898	--	--
Equals earnings of the operator household from farming activities	5,810	7,180	4,815	4,376	4,720	7,906	5,294	4,730
Plus earnings of the operator household from off-farm sources <sup>9</sup>	31,638	35,731	35,408	38,092	39,671	42,455	42,292	43,709
Equals average farm operator household income	37,447	42,911	40,223	42,469	44,392	50,361	47,586	48,439
	\$ per U.S. household							
U.S. average household income <sup>10</sup>	37,922	38,840	41,428	43,133	44,938	47,123	--	--
	Percent							
Average farm operator household income as percent of U.S. average household income	98.7	110.5	97.1	98.5	98.8	106.9	--	--
Average operator household earnings from farming activities as percent of average operator household income	15.5	16.7	12.0	10.3	10.6	15.7	--	--

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

Table 31—Balance Sheet of the U.S. Farming Sector

	Calendar year <sup>1</sup>									
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	<i>\$ per operator household</i>									
Assets										
Real estate	600.8	620.0	625.6	642.8	678.3	712.4	761.3	805.4	852.9	895.6
Non-real estate	211.6	219.8	218.0	226.2	232.4	230.6	224.1	229.5	230.1	235.9
Livestock and poultry	66.2	70.9	68.1	71.0	72.8	67.9	57.8	60.1	58.5	59.0
Machinery and motor vehicles	21.9	21.5	20.7	22.7	23.2	23.1	27.2	30.6	28.0	29.0
Crops stored <sup>2</sup>	2.6	2.8	2.7	3.9	3.8	5.0	3.4	4.4	4.7	4.5
Purchased inputs	36.8	38.3	40.6	43.1	46.6	47.9	49.0	48.9	49.0	50.5
Financial assets	812.4	839.9	843.5	868.9	910.7	943.0	985.4	1,034.9	1,083.0	1,131.5
Liabilities										
Real estate debt <sup>3</sup>	76.0	74.7	74.9	75.4	76.3	78.0	79.6	81.9	84.1	86.5
Non-real estate debt <sup>4</sup>	61.9	63.2	64.3	63.6	65.9	69.1	71.5	74.2	78.1	81.2
Total farm debt	137.9	137.9	139.2	139.0	142.2	147.1	151.0	156.2	162.2	167.6
Total farm equity	674.5	701.9	704.3	729.9	768.5	795.9	834.3	878.7	920.8	963.8
	<i>Percent</i>									
Selected ratios										
Debt to assets	17.7	17.0	16.4	16.5	16.0	15.6	15.6	15.3	15.1	15.0
Debt to equity	21.6	20.4	19.6	19.8	19.0	18.5	18.5	18.1	17.8	17.6
Debt to net cash income	299	280	278	290	253	228	277	296	261	280

Values in the last two columns are forecasts. 1. As of December 31. 2. Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3. Excludes debt on operator dwellings, but includes CCC storage and drying facilities loans. 4. Excludes debt for nonfarm purposes. Information contact: Dave Peacock (202) 694-5582

Table 32—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops <sup>1</sup>				Total <sup>1</sup>			
			Dec	Jan			Dec	Jan			Dec	Jan
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
\$ million <sup>2</sup>												
NORTH ATLANTIC												
Maine	250	262	22	22	201	224	20	19	450	485	42	41
New Hampshire	63	72	6	7	86	89	6	6	149	161	12	13
Vermont	380	437	37	39	90	98	5	4	470	535	42	43
Massachusetts	99	109	9	9	336	369	45	12	436	478	54	22
Rhode Island	9	11	1	1	70	72	8	3	79	83	9	4
Connecticut	228	237	19	18	230	252	34	12	458	489	53	30
New York	1,852	2,045	166	169	1,006	998	88	70	2,859	3,043	254	238
New Jersey	196	196	17	16	577	605	37	23	773	801	54	39
Pennsylvania	2,553	2,865	241	266	1,216	1,278	117	102	3,769	4,143	358	368
NORTH CENTRAL												
Ohio	1,589	1,945	163	146	3,094	3,177	338	344	4,684	5,122	501	490
Indiana	1,759	1,895	172	117	3,428	3,663	295	487	5,187	5,558	467	604
Illinois	1,926	2,061	145	152	6,537	6,989	545	1,362	8,462	9,050	690	1,514
Michigan	1,343	1,448	116	116	2,283	2,195	235	198	3,626	3,643	351	315
Wisconsin	3,949	4,288	355	377	1,725	1,773	201	148	5,674	6,062	556	526
Minnesota	3,448	4,168	351	353	3,681	4,641	501	270	7,129	8,809	852	622
Iowa	5,022	5,457	476	444	6,234	7,396	501	875	11,256	12,853	977	1,319
Missouri	2,285	2,450	193	154	2,087	2,500	283	357	4,372	4,950	476	511
North Dakota	567	537	54	76	2,574	2,996	297	187	3,141	3,532	351	263
South Dakota	1,700	1,633	164	182	1,696	2,051	194	176	3,684	3,577	357	359
Nebraska	5,191	5,277	435	443	3,763	4,177	464	468	8,953	9,454	899	911
Kansas	4,536	4,570	405	431	3,035	3,299	396	394	7,572	7,869	801	825
SOUTHERN												
Delaware	517	573	39	46	162	184	9	7	679	757	47	53
Maryland	834	901	69	73	572	633	37	27	1,405	1,534	107	100
Virginia	1,393	1,478	123	113	838	900	82	52	2,230	2,378	205	165
West Virginia	312	308	23	23	79	80	9	6	391	388	32	29
North Carolina	3,726	4,427	297	311	3,165	3,404	243	168	6,891	7,831	540	479
South Carolina	613	737	57	56	816	865	61	50	1,430	1,602	117	106
Georgia	2,789	3,279	271	277	2,348	2,408	233	164	5,136	5,687	504	441
Florida	1,138	1,188	119	110	4,818	4,942	476	551	5,956	6,131	595	661
Kentucky	1,615	1,719	108	172	1,485	1,831	615	428	3,100	3,550	723	600
Tennessee	893	998	98	108	1,228	1,374	287	143	2,120	2,372	385	251
Alabama	2,167	2,363	155	182	705	811	79	70	2,872	3,174	234	252
Mississippi	1,686	1,934	150	174	1,448	1,529	242	186	3,134	3,463	393	360
Arkansas	3,022	3,357	244	270	2,068	2,530	270	198	5,090	5,887	514	468
Louisiana	630	687	65	63	1,383	1,655	270	171	2,013	2,342	335	233
Oklahoma	2,572	2,439	245	310	1,091	1,126	112	89	3,663	3,566	357	399
Texas	8,451	7,758	745	749	4,658	5,295	598	556	13,108	13,053	1,343	1,306
WESTERN												
Montana	796	797	65	83	1,074	1,230	143	99	1,870	2,027	208	182
Idaho	1,221	1,329	129	148	1,932	2,081	238	93	3,153	3,410	367	241
Wyoming	544	478	29	46	184	184	35	12	728	662	64	58
Colorado	2,743	2,759	295	209	1,414	1,470	155	153	4,156	4,229	450	362
New Mexico	961	1,197	132	158	498	512	57	25	1,458	1,709	190	183
Arizona	810	839	71	64	1,347	1,308	141	233	2,157	2,146	212	297
Utah	591	646	62	49	221	227	19	17	812	873	81	67
Nevada	164	153	11	13	118	133	11	8	282	286	22	22
Washington	1,583	1,664	140	131	3,631	4,017	311	267	5,215	5,681	451	399
Oregon	660	657	62	66	2,049	2,320	180	124	2,709	2,977	242	190
California	5,549	6,213	595	584	16,973	17,096	1,503	959	22,523	23,310	2,098	1,544
Alaska	6	6	1	2	24	23	2	2	30	29	2	4
Hawaii	72	66	5	5	423	417	34	34	494	483	39	40
UNITED STATES	87,004	92,914	7,954	8,137	100,700	109,425	11,062	10,412	187,704	202,339	19,015	18,549

1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. 2. Estimates as of end of current month. Totals may not add because of rounding. Information contact: Roger Strickland (202) 694-5592. To receive current monthly cash receipts, contact Larry Traub at (202) 694-5593 or ltraub@econ.ag.gov

Table 33—Cash Receipts from Farming

	Annual			1997							1998
	1995	1996	1997 P	Jan	Aug	Sep	Oct	Nov	Dec	Jan	
	\$ million										
Commodity sales*	187,704	202,339	201,822	19,154	15,394	17,194	22,240	21,008	19,015	18,549	
Livestock and products	87,004	92,914	93,449	7,930	7,787	8,186	7,531	7,705	7,954	8,137	
Meat animals	44,828	44,382	47,633	3,912	3,926	4,490	3,660	3,654	4,101	4,205	
Dairy products	19,894	22,834	21,080	1,777	1,687	1,653	1,821	1,822	1,930	1,959	
Poultry and eggs	19,069	22,326	21,362	1,979	1,914	1,748	1,816	1,809	1,694	1,701	
Other	3,214	3,371	3,374	263	260	295	233	420	229	273	
Crops	100,700	109,425	108,373	11,223	7,607	9,009	14,709	13,303	11,062	10,412	
Food grains	10,417	11,550	10,610	972	989	1,021	881	659	840	763	
Feed crops	24,282	28,114	25,851	3,410	1,801	1,789	2,935	3,442	2,624	3,288	
Cotton (lint and seed)	6,851	7,461	6,914	1,106	240	257	1,079	1,497	1,216	952	
Tobacco	2,548	2,796	3,072	273	381	579	579	290	782	408	
Oil-bearing crops	15,466	17,756	19,518	2,903	786	1,002	4,500	2,374	1,664	2,468	
Vegetables and melons	14,891	14,349	14,244	902	1,629	1,590	1,591	870	873	1,020	
Fruits and tree nuts	11,074	11,714	12,169	700	886	1,336	1,598	1,833	1,334	586	
Other	15,170	15,686	15,995	956	895	1,435	1,546	2,338	1,728	927	
Government payments	7,253	7,281	7,460	1,885	37	2,958	1,598	34	739	1,829	
Total	194,957	209,620	209,282	21,039	15,431	20,152	23,838	21,042	19,754	20,378	

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

Table 34—Farm Production Expenses

	Calendar year									
	1989	1990	1991	1992	1993	1994	1995	1996	1997 F	1998 F
	\$ million									
Feed purchased	20,744	20,388	19,333	20,133	21,431	22,631	23,829	25,234	25,173	24,308
Livestock and poultry purchased	12,935	14,642	14,129	13,574	14,597	13,270	12,335	11,148	13,995	13,300
Seed purchased	4,397	4,519	5,113	4,913	5,165	5,376	5,463	6,112	6,391	6,325
Farm-origin inputs	38,076	39,548	38,575	38,620	41,194	41,277	41,628	42,495	45,560	43,934
Fertilizer and lime	8,174	8,206	8,666	8,331	8,398	9,180	10,033	10,934	10,824	10,892
Fuels and oils	4,772	5,790	5,607	5,298	5,350	5,312	5,448	5,736	5,664	5,628
Electricity	2,648	2,606	2,633	2,610	2,676	2,682	2,968	3,198	3,141	3,106
Pesticides	5,011	5,363	6,321	6,471	6,723	7,225	7,726	8,525	8,730	8,725
Manufactured inputs	20,605	21,965	23,228	22,710	23,147	24,398	26,175	28,393	28,359	28,352
Short-term interest	6,743	6,656	6,130	5,395	5,333	5,954	6,685	6,862	7,000	7,100
Real estate interest <sup>1</sup>	7,190	6,781	5,989	5,742	5,489	5,782	6,042	6,357	6,400	6,500
Total interest charges	13,933	13,437	12,119	11,138	10,822	11,735	12,726	13,218	13,400	13,600
Repair and maintenance <sup>1</sup>	8,407	8,554	8,632	8,471	9,193	9,083	9,458	10,304	10,656	10,834
Contract and hired labor	12,029	14,113	13,900	14,000	15,006	15,309	16,316	17,348	18,207	18,737
Machine hire and custom work	3,378	3,574	3,523	3,782	4,420	4,790	4,792	4,692	4,860	4,824
Marketing, storage, and transportation	4,207	4,211	4,719	4,541	5,648	6,821	7,180	6,818	7,193	7,155
Misc. operating expenses <sup>1,2</sup>	12,977	13,844	14,654	14,061	15,554	17,146	18,270	17,985	18,074	17,764
Other operating expenses	40,945	44,297	45,427	44,854	49,822	53,148	56,016	57,147	58,990	59,314
Capital consumption <sup>1</sup>	18,117	18,128	18,184	18,310	18,378	18,688	18,914	18,930	19,005	19,038
Taxes <sup>1</sup>	5,505	5,862	5,815	6,117	6,177	6,490	6,717	6,828	6,994	7,053
Net rent to nonoperator landlords	9,428	10,052	9,924	11,188	11,009	11,720	11,984	14,293	14,130	13,836
Other overhead expenses	33,050	34,042	33,923	35,614	35,564	36,898	37,615	40,050	40,129	39,927
Total production expenses	146,660	153,290	153,273	152,936	160,548	167,457	174,161	181,303	186,438	185,127

F = Forecast. 1. Includes operator dwellings. 2. Beginning in 1982, miscellaneous operating expenses include other livestock purchases, dairy assessments and feeding fees paid by nonoperators. Totals may not add because of rounding. *Information contact:* Chris McGath (202) 694-5579, Dave Peacock (202) 694-5582

Table 35—CCC Net Outlays by Commodity &amp; Function

	Fiscal year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998 E	1999 E
	\$ million									
COMMODITY/PROGRAM										
Feed grains:										
Corn	2,435	2,387	2,105	5,143	625	2,090	2,021	2,587	2,648	2,577
Grain sorghum	349	243	190	410	130	153	261	284	286	280
Barley	-94	71	174	186	202	129	114	109	145	126
Oats	-5	12	32	16	5	19	8	8	9	8
Corn and oat products	8	9	9	10	10	1	0	0	0	0
Total feed grains	2,693	2,722	2,510	5,765	972	2,392	2,404	2,988	3,088	2,991
Wheat and products	796	2,805	1,719	2,185	1,729	803	1,491	1,332	1,556	1,468
Rice	667	867	715	887	836	814	499	459	519	471
Upland cotton	-79	382	1,443	2,239	1,539	99	685	561	859	878
Tobacco	-307	-143	29	235	693	-298	-496	-156	-183	-160
Dairy	505	839	232	253	158	4	-98	67	191	116
Soybeans	5	40	-29	109	-183	77	-65	5	10	22
Peanuts	1	48	41	-13	37	120	100	6	0	-1
Sugar	15	-20	-19	-35	-24	-3	-63	-34	-38	-39
Honey	47	19	17	22	0	-9	-14	-2	0	0
Wool	104	172	191	179	211	108	55	0	0	0
Operating expense <sup>1</sup>	618	625	6	6	6	6	6	6	5	6
Interest expenditure	632	745	532	129	-17	-1	140	-111	-56	-28
Export programs <sup>2</sup>	-34	733	1,459	2,193	1,950	1,361	-422	125	111	547
Disaster/tree/ livestock assistance <sup>3</sup>	161	121	1,054	944	2,566	660	95	130	15	4
Conservation reserve program	0	0	0	0	0	0	7	105	297	346
Other conservation programs	647	155	-162	949	-137	-103	320	104	394	432
Total	6,471	10,110	9,738	16,047	10,336	6,030	4,646	7,256	8,566	8,747
Function										
Price support loans (net)	-399	418	584	2,065	527	-119	-951	110	-88	-119
Cash direct payments: <sup>4</sup>										
Production flexibility contract	0	0	0	0	0	0	5,141	6,320	5,719	5,512
Deficiency	4,178	6,224	5,491	8,607	4,391	4,008	567	-1,118	-13	0
Diversion	0	0	0	0	0	0	0	0	0	0
Dairy termination	189	96	2	0	0	0	0	0	0	0
Loan Deficiency	3	21	214	387	495	29	0	0	0	0
Other	0	0	140	149	171	97	95	7	203	250
Disaster	0	0	0	0	0	0	0	0	0	0
Conservation reserve program	0	0	0	0	0	0	2	1,671	1,798	1,694
Other conservation programs	0	0	0	0	0	0	0	85	244	303
Non-Insured Assistance (NAP)	0	0	0	0	0	0	2	52	69	80
Total direct payments	4,370	6,341	5,847	9,143	5,057	4,134	5,807	7,017	8,020	7,839
Crop disaster <sup>3</sup>	5	6	960	872	2,461	584	14	2	0	0
Emergency livestock/tree/ forage assistance	156	115	94	72	105	76	81	128	15	4
Purchases (net)	-48	646	321	525	293	-51	-249	-60	129	74
Producer storage payments	185	1	14	9	12	23	0	0	0	0
Processing, storage, and transportation	278	240	185	136	112	72	51	33	33	34
Operating expense <sup>1</sup>	618	625	6	6	6	6	6	6	5	6
Interest expenditure	632	745	532	129	-17	-1	140	-111	-56	-28
Export programs <sup>2</sup>	-34	733	1,459	2,193	1,950	1,361	-422	125	111	547
Other	708	240	-264	897	-170	-55	169	6	397	390
Total	6,471	10,110	9,738	16,047	10,336	6,030	4,646	7,256	8,566	8,747

E = Estimated in the FY 1999 President's Budget which was released February 2, 1998 based on November 1997 supply and demand estimates.

The CCC outlays shown for 1996-1999 include the impact of the Federal Agriculture 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). 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 Promotion Program, starting in FY 1991 and starting in FY 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, Dairy Export Incentive Program, and Technical Assistance to Emerging Markets. 3. Approximately \$1.5 billion in benefits to farmers under the Disaster Assistance Act of 1989 were paid in generic certificates and were not recorded directly as disaster assistance outlays. 4. Includes cash payments only. Excludes generic certificates in FY 86-96.

Information contact: Richard Pazdalski, Farm Services Agency-Budget at (202) 720-5148 or rpazdals@wdc.fsa.usda.gov

## Food Expenditures

Table 36—Food Expenditures

	Annual			1998			Year-to-date cumulative		
	1995	1996	1997 P	Jan R	Feb P	Mar P	Jan R	Feb P	Mar P
\$ billion									
Sales <sup>1</sup>									
At home <sup>2</sup>	354.2	367.6	380.2	31.0	25.9	28.4	31.0	56.9	85.3
Away from home <sup>3</sup>	280.8	288.5	297.9	23.2	22.8	27.4	23.2	46.1	73.4
1995 \$ billion									
Sales <sup>1</sup>									
At home <sup>2</sup>	367.3	367.4	371.0	29.7	25.0	27.3	29.7	54.7	82.0
Away from home <sup>3</sup>	287.7	288.5	289.7	22.3	21.8	26.1	22.3	44.1	70.3
Percent change from year earlier (\$ billion)									
Sales <sup>1</sup>									
At home <sup>2</sup>	3.8	3.8	3.4	3.1	-7.2	-10.0	3.1	-1.9	-4.7
Away from home <sup>3</sup>	4.5	2.7	3.0	2.2	1.6	9.2	2.2	1.9	4.5
Percent change from year earlier (1995 \$ billion)									
Sales <sup>1</sup>									
At home <sup>2</sup>	0.5	0.1	1.0	1.1	-8.6	-11.4	1.1	-3.6	-6.3
Away from home <sup>3</sup>	2.2	0.3	0.2	-0.3	-0.9	6.5	-0.3	-0.6	1.9

R = Revised. P = Preliminary. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production..

3. Excludes donations, child nutrition subsidies, and meals furnished to employees, patients, and inmates. *Information contact: Annette Clauson (202) 694-5373*

*Note:* This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food, excluding alcoholic beverages and pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced and consumed on farms and food furnished to employees; (4) this series includes all sales of meals and snacks, while PCE includes only purchases using personal funds, excluding business travel and 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			1997					1998	
	1995	1996	1997	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Rail freight rate index <sup>1</sup> (Dec. 1984=100)										
All products	111.7	111.5	112.1	111.5	112.5	112.5	112.6	112.6	112.4	112.7
Farm products	115.6	115.9	119.9	117.4	121.1	121.1	121.1	122.3	122.2	120.7
Grain <sup>6</sup>	117.1	118.0	--	--	--	--	--	--	--	--
Food products	111.7	108.8	107.6	105.9	108.4	108.4	108.4	108.7	108.7	108.5
Barge freight rate index <sup>1</sup> (Dec 1990=100)										
Grain	172.6	129.5	107.1	101.0	113.3	162.5	119.7	105.0	95.7	102.8
Grain shipments										
Rail carloadings (1,000 cars) <sup>2</sup>	28.9	25.2	23.2	26.8	20.6	25.6	23.8	23.0	23.9	24.6
Barge shipments (mil. ton) <sup>3,5</sup>	3.5	3.1	2.4	1.9	2.2	0.0	0.9	--	2.0	--
Fresh fruit and vegetable shipments <sup>4</sup>										
Piggy back (mil. cwt)	1.3	1.1	1.1	1.0	0.9	0.7	0.9	0.8	1.0	0.9
Rail (mil. cwt)	1.9	1.6	1.7	1.6	0.9	1.3	1.6	1.7	1.5	1.0
Truck (mil. cwt)	40.5	35.7	42.6	35.0	36.2	39.5	39.9	38.6	38.8	34.1
Cost of operating trucks hauling produce <sup>4</sup>										
Fleet operation (cents/mile)	130.3	123.0	135.4	135.8	134.9	135.7	136.5	--	--	--

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

## Indicators of Farm Productivity

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

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
	1992=100									
Farm output	89	87	88	83	89	94	94	100	94	107
All livestock products	89	90	92	93	94	95	98	100	100	108
Meat animals	94	94	95	97	97	96	99	100	100	102
Dairy products	94	95	94	96	95	98	98	100	99	114
Poultry and eggs	71	74	81	83	86	92	96	100	104	110
All crops	89	84	86	75	86	92	92	100	90	106
Feed crops	100	95	84	62	85	88	86	100	76	102
Food crops	95	83	84	76	83	107	82	100	96	97
Oil crops	96	89	88	72	88	87	94	100	85	115
Sugar	81	87	95	91	91	92	96	100	95	106
Cotton and cottonseed	82	60	92	96	75	96	109	100	100	122
Vegetables and melons	82	82	90	81	85	93	97	100	97	113
Fruit and nuts	86	83	95	102	98	97	96	100	107	111
Farm input <sup>1</sup>	106	102	101	100	100	101	102	100	101	102
Farm labor	108	101	101	103	104	102	106	100	96	96
Farm real estate	107	104	100	100	102	101	100	100	98	99
Durable equipment	139	130	120	113	108	105	103	100	97	94
Energy	98	91	102	102	101	100	101	100	100	103
Fertilizer	109	126	106	97	94	97	98	100	111	109
Pesticides	84	83	92	79	93	90	100	100	97	103
Feed, seed, and purchased livestock	99	99	97	96	91	99	99	100	101	102
Inventories	108	105	102	98	93	97	100	100	104	99
Farm output per unit of input	84	85	87	83	90	93	92	100	94	105
Output per unit of labor										
Farm <sup>2</sup>	82	86	87	81	86	92	89	100	98	111
Nonfarm <sup>3</sup>	92	95	95	95	96	96	97	100	100	101

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

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## Food Supply & Use

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

Commodity	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996 P
	<i>Lbs.</i>									
Red meats <sup>2,3,4</sup>	117.4	119.5	115.9	112.3	111.9	114.1	112.1	114.7	114.7	112.0
Beef	69.6	68.6	65.4	64.0	63.1	62.8	61.5	63.6	64.0	64.2
Veal	1.3	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	1.0
Lamb & mutton	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8
Pork	45.6	48.8	48.4	46.4	46.9	49.5	48.9	49.5	49.0	46.0
Poultry <sup>2,3,4</sup>	51.0	51.9	53.9	56.3	58.3	60.8	62.5	63.3	62.9	64.3
Chicken	39.4	39.6	40.9	42.5	44.3	46.7	48.5	49.3	48.8	49.8
Turkey	11.6	12.4	13.1	13.8	14.1	14.1	14.0	14.1	14.1	14.6
Fish and shellfish <sup>3</sup>	16.1	15.1	15.6	15.0	14.8	14.7	14.9	15.1	14.9	14.7
Eggs <sup>4</sup>	32.7	31.8	30.5	30.2	30.1	30.3	30.4	30.6	30.2	30.4
Dairy products										
Cheese (excluding cottage) <sup>2,5</sup>	24.1	23.7	23.8	24.6	25.0	26.0	26.2	26.8	27.3	27.7
American	12.4	11.5	11.0	11.1	11.1	11.3	11.4	11.5	11.8	12.0
Italian	7.6	8.1	8.5	9.0	9.4	10.0	9.8	10.3	10.4	10.8
Other cheeses <sup>6</sup>	4.1	4.1	4.3	4.5	4.6	4.7	5.0	5.0	5.0	5.0
Cottage cheese	3.9	3.9	3.6	3.4	3.3	3.1	2.9	2.8	2.7	2.6
Beverage milks <sup>2</sup>	226.5	222.3	224.2	221.8	221.2	218.3	213.4	213.5	209.7	210.0
Fluid whole milk <sup>7</sup>	111.9	105.7	97.5	90.4	87.3	84.0	80.1	78.8	75.3	74.8
Fluid lowfat milk <sup>8</sup>	100.6	100.5	106.5	108.4	109.9	109.3	106.5	105.9	102.5	101.5
Fluid skim milk	14.0	16.1	20.2	22.9	23.9	25.0	26.7	28.7	31.9	33.7
Fluid cream products <sup>9</sup>	7.6	7.6	7.8	7.6	7.7	8.0	8.0	8.1	8.4	8.7
Yogurt (excluding frozen)	4.3	4.5	4.2	4.0	4.2	4.2	4.3	4.7	5.1	4.8
Ice cream	18.4	17.3	16.1	15.8	16.3	16.3	16.1	16.1	15.7	15.9
Ice milk	7.4	8.0	8.4	7.7	7.4	7.1	6.9	7.6	7.5	7.6
Frozen yogurt	--	--	2.0	2.8	3.5	3.1	3.5	3.5	3.5	2.7
All dairy products, milk equivalent, milkfat basis <sup>10</sup>	601.2	582.5	563.8	568.5	565.7	565.9	574.0	585.8	584.1	575.6
Fats and oils --total fat content	62.9	63.5	60.8	62.8	65.4	67.4	70.2	68.5	66.8	65.6
Butter and margarine (product weight)	15.2	14.8	14.6	15.3	15.0	15.4	15.8	14.7	13.7	13.4
Shortening	21.4	21.5	21.5	22.2	22.4	22.4	25.1	24.1	22.5	22.2
Lard and edible tallow (direct use)	2.7	2.6	2.1	2.4	3.1	4.1	3.9	4.7	4.9	5.3
Salad and cooking oils	25.4	26.3	24.4	24.8	26.7	27.2	26.8	26.2	26.8	26.0
Fresh fruits <sup>11</sup>	121.6	120.9	122.9	116.3	113.0	123.5	124.9	126.4	124.5	129.2
Canned fruit <sup>12</sup>	18.4	18.5	19.0	18.4	17.1	19.8	18.0	18.3	15.0	16.4
Dried Fruit	3.1	3.3	3.3	3.1	3.0	2.8	3.0	3.0	2.8	2.8
Frozen Fruit	3.6	3.4	3.7	3.5	3.5	3.8	3.4	2.9	4.2	3.9
Selected fruit juices <sup>13</sup>	72.8	68.3	70.5	66.2	66.6	63.6	74.9	71.6	75.6	75.5
Vegetables <sup>11</sup>										
Fresh	162.4	167.4	172.2	166.2	163.3	171.3	172.3	175.6	176.3	178.7
Canning	99.1	94.8	102.4	110.9	113.3	111.6	112.1	107.6	110.4	109.4
Freezing	67.0	64.2	67.6	70.5	72.8	71.6	76.7	81.4	78.2	83.3
Dehydrated and chips	29.9	29.3	29.9	31.8	32.6	32.1	33.0	31.6	31.2	32.9
Pulses	5.7	7.5	6.3	7.1	7.8	8.2	7.8	8.4	8.5	8.0
Peanuts (shelled)	6.4	6.9	7.0	6.0	6.5	6.2	6.0	5.8	5.7	5.7
Tree nuts (shelled)	2.2	2.3	2.2	2.4	2.2	2.2	2.2	2.3	1.9	2.1
Flour and cereal products <sup>14</sup>	171.4	175.5	174.5	182.0	183.6	186.2	191.0	194.1	192.5	198.5
Wheat flour	129.8	132.7	133.1	137.0	138.0	141.2	144.4	147.3	149.8	152.0
Rice (milled basis)	14.0	14.3	15.2	16.2	16.8	17.5	17.6	19.3	20.1	18.9
Caloric sweeteners <sup>15</sup>	131.6	132.7	133.1	137.0	138.0	141.2	144.4	147.3	149.8	152.0
Coffee (green bean equiv.)	10.2	9.8	10.1	10.3	10.3	10.0	9.1	8.2	8.0	9.0
Cocoa (chocolate liquor equiv.)	3.8	3.8	4.0	4.3	4.6	4.6	4.3	3.9	3.6	--

-- = Not available. P = Preliminary. 1. In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, and ending stocks. Calendar-year data except fresh citrus fruits, peanuts, tree nuts, and rice which are on crop-year basis. 2. Totals may not add due to rounding. 3. Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 4. Excludes shipments to the U.S. territories. 5. Whole and part-skim milk cheese. 6. Natural equivalent of cheese and cheese products. 7. Includes Swiss, Brick, Muenster, cream, Neufchatel, Blue, Gorgonzola, Edam, and Gouda. 8. Plain and flavored. 9. Heavy cream, light cream, half and half, eggnog and sour cream and dip. 10. Includes condensed and evaporated milk and dry milk products. 11. Farm weight. 12. Excludes pineapples and berries. 13. Single strength equivalent. 14. Includes rye, corn, oat, and barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, and fuel. 15. Dry weight equivalent.

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