

AGRICULTURAL OUTLOOK



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Contents have been approved by the World Agricultural Outlook Board and the summary released May 20, 1999. Price and quantity forecasts are based on the May 12, 1999 *World Agricultural Supply and Demand Estimates*.

Subscriptions: \$65 per year (\$130 to foreign addresses, including Canada). Order from ERS-NASS, 5285 Port Royal Rd., Springfield, VA 22161. Or call 1-800-999-6779 or 1-703-605-6220. Checks payable to ERS-NASS. For free e-mail subscription (text only): Send message "subscribe agricultural-outlook" (no quotes or subject title) to usda-reports@usda.mannlib.cornell.edu

The next issue (AGO-263) is scheduled for mailing on August 3, 1999. If not delivered by August 23 call (202) 694-5383 (please have mailing label handy). The full text will also be distributed electronically; call (202) 694-5050 for further information.

Cover photo: Grant Heilman Photography.

U.S.-Canada Wheat Trade ... Commodity Supplies ... CRP Acreage ... State Grain Trading in China ... Economic Crisis in Russia

Reprise of Large Supplies For U.S. Agriculture

Large supplies of major U.S. field crops are expected to persist in 1999/2000, with season-average farm prices stabilizing or declining. Wheat is the exception, with production expected to decline and average price to rise moderately.

Red meat and poultry production in 2000 is forecast about the same as the 1999 expected record. Increased poultry production, bolstered by continued profitability and low corn and soybean meal prices, will offset modest declines in beef and pork output. Broiler prices in 2000 will continue to decline from the record reached in 1998, while cattle and hog prices will continue to recover somewhat from 1998's extreme lows.

U.S.-Canada Wheat Trade: Geography & Economics Intersect

A dramatic increase in U.S. imports of Canadian wheat resulted from a series of events in the early 1990's. Trade liberalization agreements expanded the potential for trade with Canada, while U.S. export subsidies and elimination of internal Canadian transport subsidies for exported grain increased the incentive for Canada to export to the U.S. rather than to other markets. At the same time, bad weather generated unusually large trade in feed wheat. Nevertheless, geography and market economics are the fundamental determinants of current U.S.-Canada wheat trade; most Canadian wheat production is far enough north and west from most centers of U.S. production and use to limit any economic advantages of U.S. imports from Canada under normal circumstances. The early 1990's runup in imports appears to have been an isolated occurrence that has run its course.

Russia's Economic Crisis: Effects on Agriculture

The economic crisis in Russia that began in August 1998—triggered by devaluation of the ruble and government default on



domestic debt—has reduced demand for food and lowered food consumption. Substantial depreciation of the ruble has significantly raised domestic prices for foodstuffs and lowered consumer wealth and income. Russian imports of agricultural and food products have dropped by about three-fourths, causing U.S. agricultural exports to Russia—2 percent of total U.S. agricultural exports before the crisis—to plunge by around 80 percent. Agricultural production in Russia should be stimulated, since depreciation of the ruble against foreign currencies improves the price competitiveness of domestic output.

Imports Rise in Middle East & North Africa

The Middle East and North Africa region is a major global market for agricultural and food products, including wheat, barley, oil meals, and vegetable oils. The combination of increasing demand for food—caused by rapidly growing populations, rising real incomes, and diets changing with urbanization—and decreasing resources for agriculture—seen in declining farm populations and farmland, and in increasing competition for water—has overwhelmed the region's capacity to meet its consumption needs. The U.S. is a

major supplier of agricultural commodities to the region, with shipments averaging \$4.1 billion per year during 1996-98, a 29-percent increase over 1990-92. The April 1999 lifting of U.S. trade sanctions on food could add to increased U.S. exports to the region in the long term.

Conservation Reserve Program Approaches Acreage Limits

USDA's Conservation Reserve Program (CRP), after accepting 5 million acres in its 18th signup in March 1999, stands just 5 million acres shy of its statutory limit of 36.4 million acres, with relatively little acreage due to expire in the next 3 years. In order to provide for joint Federal-state conservation reserve initiatives, and to reserve 4 million acres for the Administration's Clean Water Action Plan, future signups will be unable to enroll such large acreages. Should legislation raise the statutory cap on enrollment, analysis shows that new enrollment would likely have less erosion-reduction benefits compared with other factors in the CRP Environmental Benefits Index scoring system, while total erosion benefits would still increase. Assuming all potential bidders would indeed bid, no radical shifts in the geographic distribution of acreage would be expected.

State Trading & Management of Grain Marketing in China

The role of state trading enterprises in the People's Republic of China is a key agricultural issue as China seeks membership in the World Trade Organization. Despite more than 15 years of economic reform, the government's state trading enterprises continue to provide China with enormous power to manage the level and direction of trade flows of several major agricultural commodities, including wheat, rice, and corn. Examining the entire chain of governmental organizations engaged in domestic and international grain marketing is necessary to understand the role of state trading in China because policies and institutions are intertwined.

Briefs

Field Crops

Price Pressure on Major Field Crops To Continue in 1999/2000

Large supplies of the major U.S. field crops are expected to persist in 1999/2000, with season-average farm prices stabilizing or declining, according to USDA's first forecast of production and prices. Wheat is an exception, however, with production expected to decline and the season-average farm price to rise slightly. While domestic consumption of soybeans and many grains is projected to remain strong because of low prices, the export situation will vary by crop. Export growth is expected for soybeans, wheat, and cotton, but for feed grains and rice, growth will be limited or nonexistent because of large supplies in some competing countries and small import demand growth in other areas.

U.S. soybean supplies for 1999/2000 are expected to be record large, exceeding 3 billion bushels for the first time. Production is also expected to set a record, partly because the soybean loan rate supports higher expected returns this year relative to alternative crops. With large U.S. and foreign supplies expected, the U.S. farm price is projected down, at \$3.95-4.75 per bushel. The midpoint, \$4.35 per bushel, has not been this low since 1972/73.

Large supplies and low prices will encourage soybean use in 1999/2000. A modest gain is projected for domestic crush, based on improved crush earnings. USDA projects record U.S. soybean exports following this year's decline. Foreign demand for U.S. soybeans and soybean meal is expected to rebound as world import prospects improve and export competition declines, although resumption of Asian palm oil production will constrain export demand for soybean oil. Larger carry-in stocks and record output will outweigh increases in domestic and foreign demand, boosting projected ending soybean stocks to a record.

U.S. corn supplies are expected to increase by about 1 percent in 1999/2000, as an increase in carry-in stocks more than offsets a projected drop in production. Producers, responding to lower prices, are expected to reduce acres to 78.2 million, down 2 percent from a year earlier. With the increase in supply nearly offset by rising consumption, the U.S. farm price forecast, at \$1.80-\$2.20 per bushel, has the same midpoint as the 1998/99 forecast.

Despite an expected drop in production from a year earlier, the 1999 U.S. corn crop is forecast to be the fourth largest ever. Ending stocks are expected to build slightly with production slightly above total use. Slow growth in domestic use reflects stable feed and residual use and a

3-percent increase in food, seed, and industrial use. U.S. corn exports are expected to increase only slightly, due to continued strong competition from China and Argentina.

U.S. wheat producers are reducing total area in 1999 largely due to low prices. Despite a smaller wheat crop expected for 1999, large carry-in stocks are expected to result in the second-largest supply in the 1990's. U.S. wheat prices for 1999/2000 are expected to rise to \$2.60-\$3.10 per bushel, compared with a forecast \$2.65 in 1998/99.

Domestic consumption is expected to fall slightly as the decline in feed and residual use more than offsets the gain in food use. Feed use drops because of higher wheat prices and continued weakness in corn prices, while food use is expected to resume its growth after a 1-year pause.

U.S. Field Crops—Market Outlook

	Area		Yield	Production	Total supply	Domestic use	Exports	Ending stocks	Farm price
	Planted	Harvested							
	—Mil. acres—	Bu/acre			—Mil. bu—				\$/bu
Wheat									
1998/99	65.9	59.0	43.2	2,550	3,371	1,352	1,050	969	2.65
1999/2000	63.0	55.4	40.5	2,245	3,309	1,290	1,150	869	2.60-3.10
Corn									
1998/99	80.2	72.6	134.4	9,761	11,084	7,485	1,825	1,774	1.95-2.05
1999/2000	78.2	71.6	131.8	9,445	11,229	7,550	1,850	1,829	1.80-2.20
Sorghum									
1998/99	9.6	7.7	67.3	520	569	320	185	64	1.65-1.75
1999/2000	8.8	7.7	69.0	530	594	320	190	84	1.50-1.90
Barley									
1998/99	6.3	5.9	60.1	352	497	340	30	127	1.95
1999/2000	5.3	4.8	60.6	292	454	307	30	117	1.85-2.25
Oats									
1998/99	4.9	2.8	60.4	167	346	270	2	74	1.15
1999/2000	4.7	2.7	59.6	160	334	261	2	71	0.95-1.35
Soybeans									
1998/99	72.4	70.8	38.9	2,757	2,963	1,763	770	430	5.05
1999/2000	73.1	72.0	40.0	2,880	3,315	1,790	930	595	3.95-4.75
			Lbs./acre		—Mil. cwt (rough equiv.)—				\$/cwt
Rice									
1998/99	3.35	3.32	5,669	188.1	225.2	109.8	85	30.4	8.55-8.75
1999/2000	3.58	3.55	5,831	207.0	247.2	112.6	84	50.6	6.00-7.00
			Lbs./acre		—Mil. bales—				¢/lb.
Cotton									
1998/99	13.39	10.68	625	13.9	18.2	10.5	4.1	3.6	61.5
1999/2000	13.94	13.0	665	18.0	21.7	10.6	5.5	5.5	*

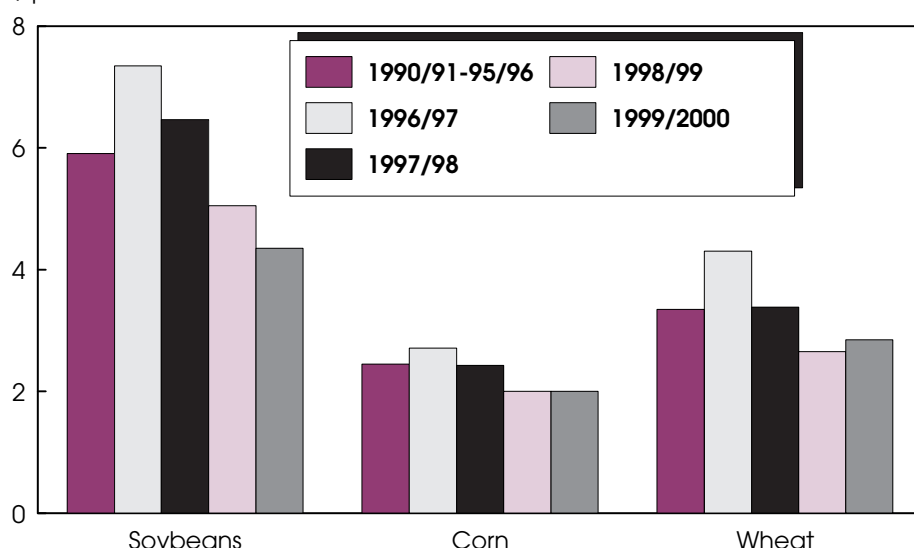
Based on May 12, 1999 *World Agricultural Supply and Demand Estimates*.

*USDA is prohibited from publishing cotton price projections.

Economic Research Service, USDA

Soybean Prices to Drop for Third Consecutive Year

\$ per bu.



U.S. season-average farm prices. Lbs./bu.: corn = 56, wheat and soybeans = 60.
1999/2000 forecast.

Economic Research Service, USDA

Wheat exports are projected to be higher in 1999/2000 as world imports rise because of low production in some key importing countries. However, the U.S. will face continued strong export competition from Australia, Argentina, Canada, and the European Union (EU). The EU is the only major competitor whose production will decline.

U.S. *rice* production is expected to be a record 207 million cwt in 1999/2000 (up 10 percent), resulting in record rice supplies. Producers are expected to plant 3.58 million acres, the second-highest area on record and the largest since 1981. With total use expected to increase only marginally, ending stocks are projected to increase sharply and reach the highest level since 1986/87. Record supplies and modest growth in total use will push down the season-average farm price to \$6-\$7 per cwt., compared with \$8.55-\$8.75 in 1998/99.

Domestic rice consumption is projected to expand nearly 3 percent. Food use, accounting for all of the expansion, is driven primarily by greater ingredient use. In contrast, exports are projected to drop slightly as rough (unmilled) exports decline as a result of weaker shipments to Latin America, more than offsetting an increase in milled shipments.

Cotton production in 1999/2000 is projected to be 18 million bales, 29 percent above last year. Despite 3 years of declining prices, producers are expected to plant 13.9 million acres, similar to 1997/98 but up 4 percent from last season, as competing crops are less attractive. Intended 1999 cotton acreage is up in all regions except the West.

Domestic mill use is projected up only slightly to 10.6 million bales, as rising textile imports are expected to nearly offset growth in retail cotton consumption.

With larger supplies and decreased foreign competition, U.S. cotton exports are expected to increase to 5.5 million bales. Expected U.S. share of world trade is 22 percent, up from 17 percent last year. U.S. ending stocks are expected to jump 50 percent, contributing to a hefty increase in the stocks-to-use ratio as supplies grow faster than consumption. **AO**

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Upcoming Reports—USDA's Economic Research Service

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

June

- 2 Outlook for U.S. Agricultural Trade*
- 11 World Agriculture Supply & Demand Estimates (8:30 am)
- 14 Cotton and Wool Outlook (4 p.m.)**
Oil Crops Outlook (4 p.m.)**
Rice Outlook (4 p.m.)**
- 15 Feed Outlook (9 a.m.)**
- 15 Wheat Outlook (9 a.m.)**
- 21 U.S. Agricultural Trade Update (3 p.m.)
- 29 Livestock, Dairy, & Poultry (4 p.m.)**

July

- 12 World Agriculture Supply & Demand Estimates (8:30 a.m.)
- 13 Cotton and Wool Outlook (4 p.m.)**
Oil Crops Outlook (4 p.m.)**
Rice Outlook (4 p.m.)**
- 14 Feed Outlook (9 a.m.)**
Wheat Outlook (9 a.m.)**
- 20 Agricultural Outlook*
- 22 Vegetables and Specialties Yearbook*
- 23 U.S. Agricultural Trade Update (3 p.m.)
- 27 Livestock, Dairy, and Poultry (4 p.m.)

*Release of summary, 3 pm

**Available electronically only

Planted area for field crops, excluding winter wheat, is based on USDA's *Prospective Plantings* report for 1999, released on March 31. Harvested area is based on historical averages for harvested-to-planted ratios. Yields are derived from historical trends or averages, except for winter wheat where survey results are used. Since planting is still underway and harvest is several months away for most crops, final production levels will depend on growing conditions. U.S. crop prices will be influenced not only by weather in the U.S. and other countries, but also by changing U.S. and global demand conditions.

Economic Research Service, USDA

animals kept for breeding was down 6 percent from the same period a year ago. Also, producers indicate they intend to have 7 percent fewer sows farrow during March-August than a year earlier. The pigs farrowed during this period should reach slaughter weight in late 1999 and early 2000. The percentage decline in the pig crop is expected to be slightly less than farrowings due to an expected rise in pigs per litter.

Hog prices have rebounded from the extreme lows in late 1998, reaching the mid- to high \$30's per cwt—about the break-even point for many hog producers. The turnaround in prices occurred once federally inspected slaughter dropped from more than 2 million head in the non-holiday weeks in late 1998 and early 1999 to 1.85 million in late April and early May. The improvement in producers' returns should begin to stabilize or increase breeding herd numbers. With continued low feed costs and with hog prices expected to average near \$40 per cwt in second-half 1999, producers are expected to retain more gilts for breeding. Thus, pork production is expected to rise modestly in late 2000.

Hog prices are expected to average in the low \$40's per cwt in 2000 due to the modest production cutbacks and lower beef supplies. However, the lackluster pork export market and rising broiler production will dampen hog price increases.

Retail pork prices have not exhibited the volatility of hog prices. The retail pork price index (Bureau of Labor Statistics) declined only 5 percent in 1998 while hog prices dropped 36 percent. In 1999, retail prices may drop another 1-2 percent due to larger pork production in first-half 1999, and because of the lag of retail price changes relative to farm price changes. In 2000, retail prices are expected to rise about 3-4 percent as pork production is reduced.

Poultry output is expected to remain strong in 2000, with production increases forecast for broilers, turkeys, and eggs. Net returns for processors in all three sectors were relatively attractive in 1998 and are expected to continue so during 1999. Continuation of the downward trend in feed costs for 1999 will offset some of the

impact on producers of lower prices for broilers and eggs.

Broiler returns (excluding interest and overhead costs) at the whole-bird level, are expected to remain in double digits in 1999 after setting a record high at 14 cents per pound in 1998. As a result, production is expected to continue increasing in 2000 at 5-6 percent. Larger gains might be realized if exports strengthen over the next 12 months. Expected economic improvement in Asia will encourage U.S. poultry exports, but increased shipments to Russia, the largest U.S. market, likely will come very slowly.

Turkey production is expected to rise about 2 percent in 2000. Negative net returns from 1996 through mid-1998 discouraged production growth during the last 3 years. In late 1998, returns turned positive and are likely to continue into 2000, due in part to strength in the export market.

Livestock, Dairy, & Poultry

Milk Production Overtakes Demand & Dairy Prices Drop

The dairy industry has undergone a major downward price adjustment since last fall as large gains in milk production finally overtook very strong demand for dairy products. With expansion momentum already established, the availability of inexpensive feed is likely to result in large milk output gains throughout 1999. Although dairy demand is expected to continue to reflect the strength of the general economy, commercial use is not likely to absorb additional supplies except at prices far below the 1998 records.

The demand strength that made 1998 such an extraordinary year persisted into 1999. Sales of all dairy products in first-quarter 1999 rose 2 percent from a year earlier on a skim-solids basis and almost 2 percent on a milkfat basis, very dramatic gains in light of higher prices. Retail prices averaged 9 percent higher, while wholesale buyers faced prices ranging from nearly

Egg returns, which have been at double-digit levels for the last 3 years, are expected to continue strong in 1999, and egg production is expected to continue increasing in 2000 at 2-3 percent. Weaker exports of egg products have slowed output growth in the egg-breaking sector to below 5 percent in 1999; 3-percent growth is expected in 2000. Increased strength of domestic shell egg sales in 1998 led to a rise in per capita shell egg consumption as rapid as the upturn in egg product consumption for the first time since 1978. Increasing domestic consumption for both sectors of the egg market are expected to continue in 2000. **AO**

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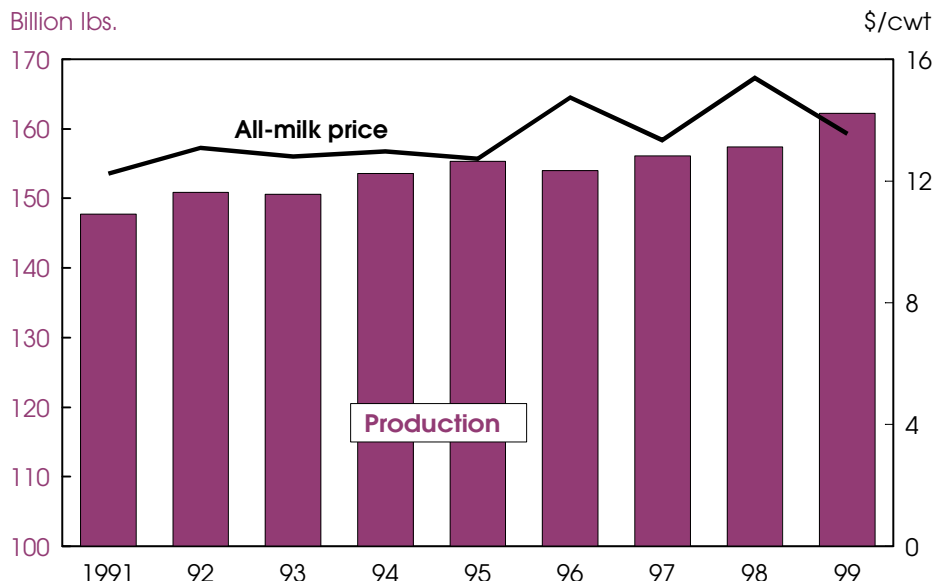
unchanged to sharply higher depending on the product.

But early-1999 sales varied by product. Commercial use of cheese rose sharply for American as well as other varieties. Fluid milk sales were generally lackluster but held steady compared with fractional declines typical of most months in 1998. Use of skim milk and cream directly in processed foods appears to be higher, but butter sales are substantially lower, reflecting the delayed effects of last year's high prices. Use of nonfat dry milk and other forms of separated skim solids—the one weakness in 1997-98 dairy demand—has risen, and relatively low and stable prices for these products over the last few years may have generated a lasting sales recovery.

Demand during the rest of 1999 is projected to stay fairly brisk. Economic growth is likely to continue and consumers are expected to remain willing to

Briefs

Average Milk Price Expected Down As Production Rises



Average price for all milk delivered to plants and dealers. 1999 forecast.
Economic Research Service, USDA

spend. At this point, there is no evidence of a major consumer reaction to the higher prices of late 1998-early 1999.

Milk output in first-quarter 1999 rose more than 3 percent from a year earlier, as relatively favorable 1996-98 returns slowed declines in milk cow numbers, down 0.4 percent from a year earlier and only slightly below third-quarter 1998. Strong producers have begun to accelerate expansion plans after a period of devoting improved returns to buttressing their financial position. These expansions have put substantial pressure on prices of replacement heifers, with very high prices reported across the country.

Very favorable weather and record milk-feed price ratios triggered a surge in milk per cow, despite still-tight supplies of dairy-quality forage. The almost 4-percent jump over first-quarter a year ago brought milk per cow close to the longrun trend for the first time in about 4 years. January-March production illustrates the probable pattern of milk production during the rest of 1999 and into 2000.

Returns over concentrate cost as well as the milk-feed price ratio will trail the 1998 records but will generally stay above levels in 1997 and the early 1990's. These milk-feed relationships likely will sustain the expansion begun last autumn. Milk output is projected to increase about 3 percent this year, with large rises persisting until yearend 1999. Milk cow numbers for the remainder of the year are expected to stay near early-1999 levels as growth in new and expanding herds offsets a still-substantial exit of milk producers.

On April 1, commercial stocks of butter and nonfat dry milk were large and perhaps more than needed in the coming months. Cheese stocks were fairly close to levels of recent years at this time of year, and probably near the level desired by manufacturers and wholesalers. Although cheese production has increased in recent months, brisk sales have reinforced the need to maintain stocks.

In early March, dry milk contracts for exports subsidized under USDA's Dairy Export Incentive Program (DEIP) reached the limit established in the Uruguay Round Agreement on Agriculture. Heavy production of nonfat dry milk and

restricted DEIP opportunities resulted in government price support purchases of about 70 million pounds between March 1 and mid-May. USDA recently announced that 20,000 tons of DEIP allocations not used in previous years would be made available during May-June. Even so, sizeable support purchases are expected to continue this spring and summer.

The increases in milk production may leave late spring cheese prices somewhat below mid-May levels, but price decreases are projected to be small if demand remains as brisk as expected. Meanwhile, milkfat markets will tighten as milkfat production is low during the summer months and use for ice cream production picks up. Butter prices may be unsettled. Nonfat dry milk prices will likely stray little from the support purchase price at least until autumn.

The Basic Formula Price (BFP)—the value of milk for manufacturing—is expected to slip below \$11 per cwt in late spring-early summer, a decline of more than a third from the December record. However, the strongest effect of the surge in milk production may be the limiting of usual seasonal rises in the BFP during the second half of 1999, when the average BFP is projected to be the lowest since the early 1990's. For the year, the BFP is expected to average below \$12 per cwt, down sharply from 1998's \$14.20. The decline in the average price of all milk will not be as sharp, because of high prices of milk for fluid use in early 1999. Even so, the average milk price is projected to fall almost \$2 per cwt this year from an average \$15.42 in 1998.

This year's first-quarter 9-percent increase in retail prices of dairy products over first-quarter 1998 reflects the carryover effects of high farm and wholesale prices in late 1998. The current high retail prices are projected to decline as 1999 progresses, so the overall increase for the year is projected to be 4 to 5 percent. The farm-retail price spread, after declining significantly in 1998, will widen sharply in 1999. **AO**

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Specialty Crops

Stone Fruit Supplies Likely To Increase Slightly in 1999

Unfavorable weather in mid-April tempered earlier expectations of a strong crop of California stone fruits (peaches, nectarines, and plums) in 1999. Weather problems caused the California Tree Fruit Agreement—a grower funded organization that promotes fresh-market stone fruits—to revise packout estimates downward 17 percent. An early morning frost severely affected some California orchards, while spotty hailstorms also damaged some orchards. Prior to that, weather had been generally favorable for crop development—blooms came in strong and fruit set appeared heavy. Although cold weather had slowed the bloom stage, warmer weather late in the winter helped the buds to swell. Most varieties of nectarines and plums and some of the freestone peaches were past full bloom around the third week of March. Because of what appeared to be a heavy fruit set, some growers were already actively thinning the early stone fruit varieties and others were pruning branches in late March-early April.

USDA's initial forecast for 1999 puts California peach production at 1.79 billion pounds, up 2 percent from last year, but 5 percent below 1997. The December hard freeze that caused serious damage to California's 1998/99 citrus crop helped provide above-average chill hours to the State's tree fruit orchards this winter. Data from the California Tree Fruit Agreement indicate that the state's tree fruit orchards have not had the chill hours required for full dormancy since 1994. Trees that are able to go through a full dormant stage usually produce strong fruit—less susceptible to pest and diseases, less prone to bruising, and capable of a longer shelf-life. This winter, by receiving about 1,331 chill hours compared with an average 1,100 chill hours, the quality of California-grown peaches, nectarines, and plums could be much improved from previous years.

Because California produces a major proportion of U.S. stone fruits—over 70 percent of domestic-grown peaches and over 90 percent of U.S. plums and nectarines—supply conditions there significantly

impact overall stone fruit prices. Last year, heavy winter rains and spring hailstorms reduced California's stone fruit production 11 percent below 1997, and raised U.S. grower prices. Plums and nectarines were hit hardest by the bad weather and their prices were up sharply.

Peaches account for over 80 percent of combined U.S. production of the three stone fruits. South Carolina and Georgia follow California's 70-percent share of peach production at a far distance, averaging about 6 and 5 percent of the U.S. total over the last 5 years. In 1998, drought conditions reduced peach production in the two states to a total of 210 million pounds, down 34 percent from 1997. South Carolina and Georgia typically market their peaches from May through August while California's season usually runs May through September.

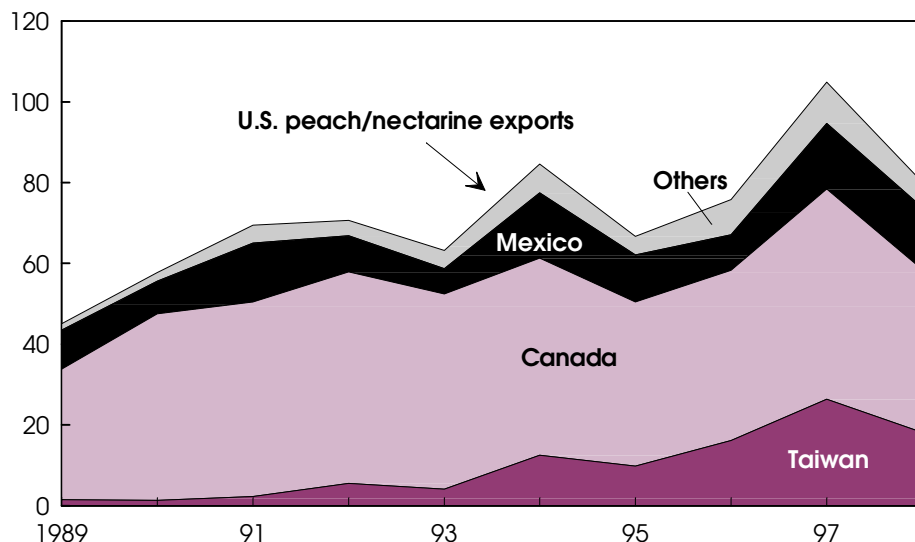
Orchards in the Southeast received inadequate chill hours this winter and low soil moisture conditions were a concern. However, rains in late April provided relief to peach orchards in Georgia where 61 percent of the crop is reported to be in good-to-excellent condition. But South Carolina's peach crop has suffered some damage from hail.

According to the Bureau of Labor Statistics, 1998 retail prices for peaches averaged well above any of the previous 5 years. (Retail prices are not reported for plums and nectarines.) During 1999, prices for fresh-market fruit likely will be about average, given increased supplies and good quality from this year's California harvest. Because of delayed fruit development from the early April cool weather, expected harvest time in California is about 5 days later than last year's delayed crop and likely will put upward pressure on early season prices.

Although U.S. stone fruit exports in 1998 were limited somewhat by smaller domestic crops and higher prices, the competitiveness of U.S. stone fruits in the global market should improve in 1999 because of adequate supplies, moderate prices, and good quality. However, export opportunities could be narrowed by continued weakness in Asian economies and by new pesticide tolerance standards effective in

Taiwan's Share of U.S. Peach/Nectarine Exports Has Enlarged in the 1990's

1,000 metric tons



Economic Research Service, USDA

Briefs

June 1999 in Taiwan, a large and growing market for U.S. stone fruits.

In 1998, fresh peach/nectarine exports fell 24 percent from the previous year, and shipments to all major markets—Canada, Taiwan, and Mexico—were lower. About half the volume of U.S. peach/nectarine exports go to Canada, but during the 1990's, Taiwan's share has increased from just 3 percent of total exports in 1990 to nearly 23 percent in 1998. U.S. fresh plum exports fell 25 percent in 1998, declining sharply to large markets such as Canada, Taiwan, and Hong Kong, but exports to Mexico, another large market, remained strong. These four markets

accounted for over 85 percent of total U.S. plum exports in 1998.

Chile is the United States' largest foreign supplier of peaches, nectarines, and plums, accounting for 99 percent of annual total import volume during the 1990's. More than half of Chile's peach and nectarine exports and over one-third of their plum exports are bound for the United States, influenced mainly by proximity of the market (since stone fruits generally have a relatively short shelf-life) and the counter-seasonal nature of Northern Hemisphere and Southern Hemisphere fruit production.

Over 90 percent of the total volume of U.S. peach/nectarine imports and plum imports enter the U.S. market in December-March. From December 1998 through February 1999, peach/nectarine imports were up 35 percent from the same period a year earlier, while plum imports were up 16 percent. Relatively good weather conditions in Chile during most of the growing period, compared with the previous two years, contributed to a larger and higher quality stone fruit harvest in 1998/99. **AO**

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The next issue of *Agricultural Outlook* will appear in **August**

and

AO's series on **risk management** will resume

Commodity Spotlight



U.S.-Canada Wheat Trade: The Intersection of Geography & Economics

The U.S. is among the world's largest wheat producers and is the world's largest wheat exporter. Production includes wheat of all classes, and the quality and characteristics generally reflect requirements of U.S. millers. Despite virtual self-sufficiency in wheat types and quantities, the U.S. imports some wheat, all from Canada, and some wheat products. The geography of wheat production and use in North America and basic economics indicate that some Canadian wheat production is well placed to supply U.S. use centers.

The current low market prices for U.S. wheat have once again raised questions about the rationale for U.S. imports and concerns about their impacts, and about the role of U.S. and Canadian policies and institutions. Trade liberalization has made some trade inevitable. However, most Canadian wheat production is far enough north and west from the bulk of U.S. production and use centers to limit economic advantages of significant U.S. imports from Canada under normal circumstances.

A convergence of events in the early 1990's led to a dramatic runup in U.S.

wheat imports. Trade liberalization agreements expanded the potential for trade, U.S. export subsidies and elimination of internal Canadian transport subsidies for exported grain increased the economic incentive for Canadian exports to the U.S. rather than to other foreign markets, and bad weather generated unusually large trade in feed wheat. The early 1990's runup in U.S. wheat imports appears to have been an isolated occurrence that has run its course.

U.S. total imports of wheat and products increased almost fivefold after 1989, peaking at nearly 3 million tons in 1993/94; the increase was predominantly hard red spring (HRS) for breadmaking and durum for pasta. (In 1993/94 and 1994/95, significant quantities of wheat were graded as feed in Canada and exported to the U.S.) This rapid import growth coincided with implementation of trade agreements beginning with the Canada-U.S. Trade Agreement in 1989 and followed by the North American Free Trade Agreement (NAFTA) in 1993 and the Uruguay Round Agreement (URA) of the General Agreement on Tariffs and Trade (GATT) in 1995. A tariff of \$7.70 per metric ton on grain imported into the

U.S. and other quantitative restrictions were finally eliminated in 1998. The trade liberalization process paused temporarily from September 1994 to September 1995 with the imposition of a U.S. tariff-rate quota (TRQ) on wheat, although it is not clear that the TRQ significantly affected trade.

U.S. exports to Canada also have increased dramatically in percentage terms but remain relatively small. Nonetheless, U.S.-Canadian trade in wheat remains less than fully liberalized; requirements for end-use certificates in both directions, for example, are still an issue.

Extraordinary weather events and crop conditions also significantly boosted imports from 1992/93 to 1994/95, particularly during the spike in 1993/94. This prompted concerns that imports would continue to rise. But since 1996/97, total U.S. wheat and product imports have stabilized at roughly 2.5 million tons and are forecast near 3 million in USDA's long-term projections.

...geography and market economics, not governments, are the most fundamental determinants of current U.S.-Canada wheat trade.

U.S.-Canada wheat trade has been affected by government institutions and policies. Most important have been the U.S. Export Enhancement Program (EEP) which provided subsidies to exporters, and the Canadian Western Grain Transportation Act (WGTA) which provided transport subsidies for Canadian grain delivered to Thunder Bay or the west coast, a disincentive to export to the U.S. (AO August 1994). The WGTA subsidy was eliminated in August 1995. The Canadian Wheat Board (CWB), its pooling system determining grower returns, and differences in Canadian regulatory policies that affect varietal licensing, marketing services, and transportation costs continue to influence Canadian wheat marketing and exports (AO June 1997).

Commodity Spotlight

The consistency of CWB actions with free trade principles has been questioned by U.S. producers, while Canadians have attributed significant trade impacts to the EEP. Nonetheless, geography and market economics, not governments, are the most fundamental determinants of current U.S.-Canada wheat trade.

Geography of the North American Hard Wheat Sector

Production. Wheat is grown in the U.S. from the southeastern coast to the Pacific Northwest (PNW). Hard wheats of high quality are grown on the Great Plains of North America on a remarkable scale, accounting for two-thirds of U.S. production and the bulk of Canadian production. Hard red winter (HRW) wheat is produced in the southern Great Plains, centered on Kansas but extending into Nebraska, Colorado, central and western Oklahoma, and the Texas panhandle. HRS and durum wheats, the classes accounting for most of the growth in U.S. wheat imports, are produced in the northern Great Plains, centered in North Dakota but extending into South Dakota, Minnesota, and along the Montana-Canadian border. Canadian HRS and durum wheat production extends northwest from the Red River Valley to the mountains of western Alberta.

Milling, processing, and exports. In the U.S. and Canada, wheat is milled and processed primarily near large population centers. Major milling centers and markets also are located on the eastern edge of Great Plains production regions. Kansas City for HRW wheat and Minneapolis for HRS and durum wheat are key markets and distribution centers.

Almost half of all U.S. wheat (including products) is exported, including more than half of HRS. U.S. durum exports account for half of production in some years, although imports also have been important, estimated at roughly one-third of domestic use. Texas Gulf Coast ports account for more than 70 percent of U.S. HRW exports, while the PNW accounts for the rest and for over half of U.S. HRS exports. The remainder of HRS exports are shipped through the Great Lakes or down the Mississippi River.

Three-quarters of Canada's HRS exports are shipped from the West Coast (Vancouver or Prince Rupert). The rest is shipped via the Great Lakes or, in recent years, to Minneapolis. The vast majority of U.S. and Canadian durum exports are shipped through the Great Lakes or New Orleans, because the foreign buyers are

principally in North Africa, South America, and Europe.

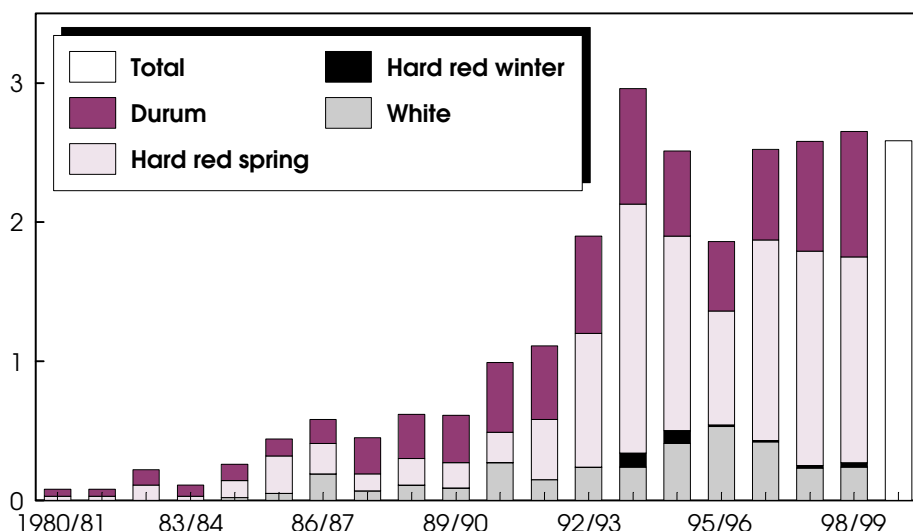
Major marketing zones. For U.S. HRW and HRS wheats, the marketing system is a virtual tug-of-war between export demand at port terminals and domestic demand at interior use centers. U.S. HRW supplies flow in three principal directions, creating three principal marketing zones—the PNW, the Texas Gulf, and Kansas City and U.S. domestic use centers to the east.

For U.S. HRW and HRS wheats, the marketing system is a virtual tug-of-war between export demand at port terminals and domestic demand at interior use centers.

U.S. and Canadian HRS wheat supplies flow basically in two directions, creating two principal marketing zones—west to the PNW or east to North American use centers and for export through the Great Lakes or via the Mississippi River. Minneapolis is the dominant U.S. internal market for HRS wheat, with significant supplies flowing through or near Minneapolis bound for export or eastern use centers. Essentially all durum wheat flows eastward, with some supplies diverted down the Mississippi for export. Almost all U.S. durum passes through Minneapolis because of its well-developed market.

U.S. Wheat Imports Have Levelled Off

Million metric tons



Includes wheat products. 1 metric ton=36.74 bushels. 1999/2000 projected.
Economic Research Service, USDA

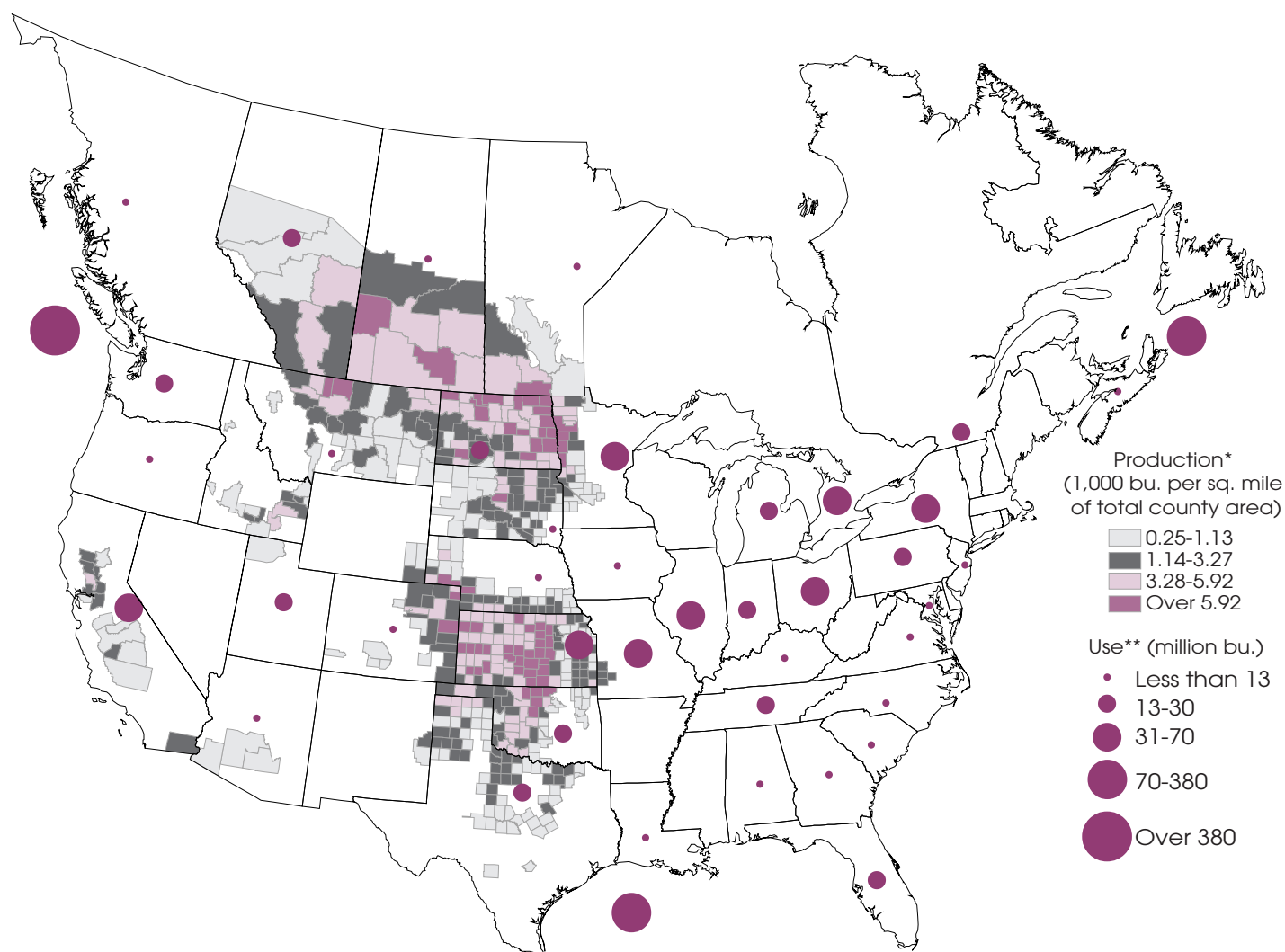
Marketing Is Private in U.S., More Regulated in Canada

Wheat marketing systems in the U.S. and Canada have not evolved in the same way. Both countries have numerous regulations, policies, and programs that affect the sector. In the U.S. there is a greater focus on private markets, while in Canada there is a greater focus on regulations related to quality assurance and the grain handling and marketing system. Each have their advocates and opponents in both countries.

The U.S. wheat marketing system, including transport services, is a private commercial process with government

Commodity Spotlight

Much of Canada's Hard Wheat Production Is Well Positioned for Export Through the Pacific Northwest



*Total hard wheat production averaged 1,568 million bushels for U.S. and 877 million bushels for Canada annually in the mid-1990's.

**Domestic mill use of hard wheat for U.S. and Canada averaged 751 million bushels annually in the mid-1990's (dots on each state and province represent mill use). Total exports for U.S. and Canada (excluding bilateral trade) averaged 1,330 million bushels annually in the mid-1990's (dots "offshore" denote exports other than U.S.-Canada trade).

Canadian data are from Agriculture and Agri-Food Canada.

Economic Research Service, USDA

intervention limited to the establishment of standards and provision of inspection services. With a view to maximizing profits, local elevator operators and traders make the decisions that allocate U.S. production to various domestic use and export centers, although prices available in major markets leave many local elevator operators with only one practical choice. Wheat is sold to the destination providing the greatest net return, given all costs of movement. Decisions, therefore, depend

not only on prices in alternative major markets but also on costs of movement, which are significant given the large distances in North America. Distance alone, however, is not necessarily an effective indicator of movement costs because transport rates and terminal charges may vary by direction and destination.

Central to the marketing process is the relationship among prices for wheat of a particular class, grade, or other character-

istic in the major use and export centers—Minneapolis, Kansas City, the PNW, and the Gulf Coast. Any array of prices among those major markets results in a geographical pattern of catchment basins, i.e., production regions predominantly supplying specific marketing zones. As each major use center attempts to attract supplies adequate to meet demand at its geographic location, the market establishes an array of prices that attract the quantities consistent with demand in the

Commodity Spotlight

various locations. Where catchment basins meet, local traders can achieve nearly equivalent net returns from sale to more than one location. For example, two U.S. HRS wheat catchment basins meet in central North Dakota, one supplying the PNW marketing zone to the west and the other supplying the marketing zone to the east. At this point, the incentive to transport wheat is the same for either direction.

Changes in the array of prices in major markets cause catchment basins to shrink or enlarge as the net return calculation changes for some traders, shifting sale of some supplies from one destination to another. The relationship among major market prices shifts continuously, fueled by changing information and expectations of supply, demand, and marketing costs. The array of prices among major markets, and the catchment basins that supply each market, may vary dramatically from year to year, reflecting changes in domestic production or in demand for exports.

The change in price relationships between markets required to generate any shift in marketing supplies depends upon transportation costs and density of supplies at the edges of catchment basins.

For example, given the density of HRS production in central North Dakota, where east and west catchment basins commonly meet, a distance of 50 miles represents about 36 million bushels or 1 million tons of wheat, roughly equivalent to the largest-ever annual change in U.S. imports. Because the density is so great in central North Dakota, the associated change in PNW-Minneapolis price differential that could reverse the flow of 1 million tons of wheat would be 4 to 14 cents per bushel, with roughly 7 cents per bushel being typical. The large range in price impacts reflects the considerable variation in U.S. transport rates over time and across regions.

The Canadian government has policies and programs that more directly affect wheat marketing in Canada. The CWB is a state trading agency that has single-desk selling authority (a monopoly position) for wheat exports and domestic sales for food. It makes most of the marketing decisions left to private traders in the U.S. Terminal and other marketing costs are set by the industry but tend to be subject to less competitive pressures than in the U.S. (In addition, western Canadian rail rates for grain and products moving to non U.S.

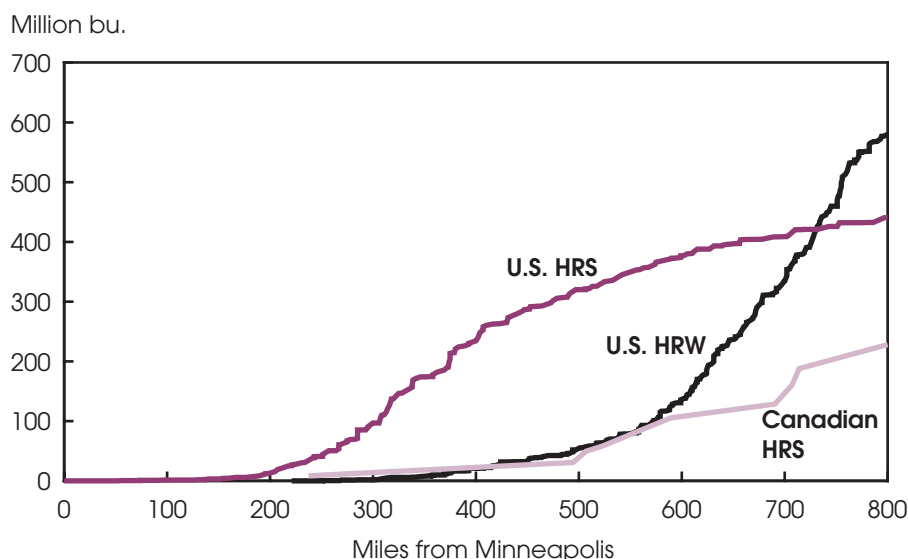
export points are regulated.) The CWB bases prices for domestic use on Minneapolis prices in order for Canadian wheat to remain competitive across an open border. The CWB's mission is to maximize producer returns on sales. For commercial reasons, the CWB, like private grain traders, does not reveal grain sales data. Maximization of producer returns by the CWB would result in marketing behavior very similar to that of private traders.

Wheat marketing systems in the U.S. and Canada have not evolved in the same way.

Unlike private wheat traders in the U.S., the CWB competes for sales without having committed financially to the full acquisition price (only an initial price). This lack of risk exposure does afford some advantage over competitors on individual sales, but the advantage probably is small or negligible in the highly competitive commercial world wheat markets in the longer term. The CWB does not have any control over Canadian production other than the incentive provided by net CWB returns. If the CWB were to repeatedly secure sales by offering wheat at below market prices, returns to Canadian farmers and longer-term production incentives would be reduced. Reduced Canadian production would tend to boost world prices, benefitting U.S. producers.

Farmer-owned co-operatives and those recently transformed into public companies operate most country elevators in Canada and are the major handlers of CWB wheat and barley. The CWB operates through a system of accredited agents in most markets, including the U.S. The growing integration of the North American wheat market has been marked by the emergence of U.S. and other international grain firms as key players in the Canadian marketing, handling, and processing system, owning elevators and acting as CWB agents for sales into the U.S. and other world markets.

Large Supplies of U.S. Hard Wheat Are Grown Relatively Close to Minneapolis Millers/Processors



HRS=hard red spring wheat; HRW=hard red winter wheat.
Mid-1990's annual averages. Canadian data are from Agriculture and Agri-Food Canada.

Commodity Spotlight

Geography & Economics

Limit U.S. Imports

Underlying the U.S.-Canadian wheat trade is a geographic reality—the great bulk of Canadian wheat production is relatively far from U.S. demand centers. Based on estimates by USDA's Economic Research Service of mill, feed, and seed use by state, total demand of the Minneapolis marketing zone for HRS wheat averaged roughly 325 million bushels annually during 1993-97. That amount of HRS wheat is available from U.S. supplies within roughly 500 miles of Minneapolis, although the qualities required by U.S. millers may require a larger catchment basin in some years. Within the same distance from Minneapolis, Canadian HRS wheat production is still relatively limited and largely dedicated to meeting domestic needs in eastern Canada. Almost 80 percent of Canadian HRS production is more than 700 miles from Minneapolis. U.S. HRW wheat supplies provide another alternative (although generally lower in protein), with production density at least as high as Canadian supplies at 400 miles or more.

Analysis by Agriculture and Agri-Food Canada (AAFC), USDA's counterpart, has provided more complete estimates of CWB incentives for HRS export to Minneapolis, given various price relationships between Minneapolis and Canadian PNW (Vancouver) or Great Lakes markets. These estimates look beyond geography, incorporating transport, terminal, and other movement costs.

Given marketing costs (which are reasonably well known in Canada), a Minneapolis price that is US\$0.25 per bushel below Vancouver's would not justify any shipments into Minneapolis because additional transport costs to Vancouver compared with Minneapolis would be less than US\$0.25 per bushel. A Minneapolis price equal to the Vancouver price would justify exports to Minneapolis from a distance of roughly 700 miles, providing about 73 million bushels (2 million tons) of Nos. 1 & 2 Canadian HRS wheat. To access the very large Canadian HRS supplies in central Saskatchewan beginning about 850 miles from Minneapolis would require a Minneapolis price US\$0.10 above Vancouver's. Before elimination of

WGTA transport subsidies in 1995/96, Minneapolis was even less attractive to the CWB regardless of the price differential.

How consistent are these results with observed trade and prices? Like private firms, the CWB does not make sale prices public. Consequently, U.S. prices at PNW (Portland) and Minneapolis are the only available proxies for estimating CWB receipts. During 1993-97, commonly quoted Minneapolis HRS prices were below U.S. PNW (Portland) prices by about US\$0.35 per bushel on average for all protein levels. Since 1980, equality between PNW and Minneapolis prices has occurred only in 1993 and only for wheat of 15-percent protein. This analysis by AAFC reinforces summary indications provided by geographic observations—the incentive, and thus the potential, for U.S. HRS imports from Canada is very limited or nonexistent.

Underlying the U.S.-Canadian wheat trade is a geographic reality—the great bulk of Canadian wheat production is relatively far from U.S. demand centers.

Observed trade and prices in recent years require the existence of factors that cause CWB unit receipts at Vancouver to be lower than and at Minneapolis to be higher than posted prices. Obvious among the factors affecting CWB exports were EEP subsidies to U.S. exporters. Because the CWB must match effective market prices in order to be competitive in third country sales, the effective price at Vancouver for sales into EEP markets was less than the Portland price by roughly the amount of the EEP bonus (the Portland price excludes any EEP bonus). EEP bonuses for wheat averaged more than 80 cents per bushel from 1986 until they were last used in July 1995. From 1991 through 1993, EEP bonuses were US\$1 or more per bushel, implying very significant discounts at Vancouver compared with quoted prices at Portland, more than enough to make Minneapolis more attrac-

tive than EEP markets. U.S. commitments under the Uruguay Round Agreement limit future use of EEP subsidies for wheat exports.

In addition, commonly quoted Minneapolis prices may understate prices obtainable by the CWB in Minneapolis for wheats that have certain attributes required by U.S. millers. Millers blend numerous wheats together to obtain the types of flour specified by bakers. Although Canadian HRS wheat is not necessarily of higher quality than U.S. HRS wheat, it is widely believed in commercial circles that CWB control over Canadian wheat marketing, along with strict control over planted varieties and quality enforced by the Canadian Grain Commission, enables the CWB to guarantee more precisely quality and other special characteristics of individual shipments. Special wheat characteristics are not reflected in commonly quoted prices, and a guarantee of specification justifies a perhaps significantly higher price (price premium) at Minneapolis for individual shipments. Marginal exports from Vancouver on the other hand, particularly to subsidized markets (generally less quality conscious) during the first half of the 1990's, would rarely command any price premium for "Canadian quality."

Wheat Characteristics

Affect Markets & Trade

The significance of special wheat characteristics in marketing and prices may be far greater than can be demonstrated with available data. Wheat is far from a homogeneous commodity. Five major classes are grown in the U.S.—hard red winter, hard red spring, soft red winter, durum, and white (both hard and soft varieties). While each class has a different predominant end use, the classes are also substitutes for each other in many products (AO August 1997).

Commonly quoted prices are by grade, class, and protein percentage. Grade reflects a variety of conditions affecting milling yields and costs of processing. While class indicates a range of wheat characteristics, special characteristics important to millers, which can command large price premiums, are lost in averages of published market prices. A good exam-

Commodity Spotlight

ple is Canadian Western Extra Strong comprised mainly of the variety Glenlea (a HRS wheat). U.S. millers are importing 200,000-300,000 tons of this type of wheat for blending because its high gluten strength allows for a flour blend with stronger dough properties, especially important in the rapidly growing frozen dough market.

Wheats with a varying protein content or special characteristic may command differing relative prices among markets, so catchment basins for each wheat will be different. Some traders, particularly near the edges of catchment basins, may send some grades and types of wheat in one direction and other grades and types in another.

In recent years, some U.S. processors have maintained that adequate supplies of sufficient quality durum require imports from Canada in some years. According to U.S. Wheat Associates quality estimates, U.S. production of Nos. 1 and 2 durum wheat fell dramatically in 1993 to less than half of U.S. durum used for food, and supplies of higher grade U.S. durum remained below food use requirements through 1997/98.

The largest annual increases in U.S. wheat imports resulted from wheat quality issues. In 1992/93, when Canadian HRS wheat quality was among the worst on record, with 39 percent graded as feed due to early frost, roughly 1 million tons of feed wheat was exported to the U.S. where the feed market was relatively

strong. In the following year, the Canadian hard spring wheat crop was attacked by fusarium fungus which was brought on by extremely wet conditions throughout the growing season, causing another 1 million tons of high-protein spring wheat to be graded as feed because Canadian regulations allowed only 0.25 percent of fusarium-damaged kernels for Nos. 2 or 3 (above feed quality). Because this feed wheat would fetch a lower price in the domestic market, much of it was exported to the U.S. and may have been converted to food use after cleaning and blending not allowed under Canadian regulations at the time. Canadian tolerances for fusarium were subsequently raised, and blending is now allowed.

World Trade Conditions Overshadow Imports

Changes in U.S. production and in world trade have presented significant shocks to the U.S. wheat sector. A rough indicator of shocks to U.S. production is the deviation of actual from average yields (using harvested areas). During 1993-97, yield fluctuations accounted for a production swing of almost 2.8 million metric tons (mmt) below average in 1995/96 (4.4 percent) and almost 3.5 mmt above average in 1997/98 (5.4 percent). In 1998/99, production was more than 9 mmt (15 percent) above the 1993-97 average.

The largest shocks to the U.S. wheat sector by far have occurred in world trade. Year-to-year changes in world trade volume have averaged nearly 8 mmt since

1980. In three of those years, trade volume varied by more than 20 mmt.

Although changes in U.S. production and world trade refer to total wheat, the changes in U.S. wheat imports (mostly HRS and durum) have been much smaller than those changes. Increases in U.S. wheat imports were relatively large during 2 years—800,000 metric tons in 1992/93 and more than 1 million in 1993/94. However, the volume of U.S. wheat imports or the change in volume significantly overstates associated shocks to U.S. markets, because Canadian wheat shipped to the U.S. is no longer available to third countries. As third countries seek alternative sources, demand for U.S. exports increases, partially offsetting the impact of imports.

Since 1993/94, U.S. wheat and wheat product imports have stabilized at around 2.5 million metric tons, and USDA forecasts indicate very limited increases in the future. With the U.S. exporting half of its production and Canada exporting nearly 80 percent, world trade will continue to be the major source of shocks to the North American wheat sector, and North American wheat prices will continue to depend chiefly on world supply and demand. Special grain characteristics necessary to produce a growing variety of wheat products will continue to affect purchase decisions of millers and traders, including the sourcing of wheat supplies. **AO**

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World trade topics

- * *The evolution of tariff bargaining*
- * *Asian ag policies and South Korea's protectionism*
- * *NAFTA's record to date*

...in upcoming issues of Agricultural Outlook

World Agriculture & Trade



Britte Bjornlund

Russia's Economic Crisis: Effects on Agriculture Are Mixed

The economic crisis in Russia that began in August 1998—triggered by devaluation of the ruble and the government's default on domestic debt—has strongly affected the country's agriculture and food economy. Food consumption has fallen, the result of a crisis-induced drop in consumer income and rising food prices from ruble depreciation. Nevertheless, agricultural production should be stimulated as major depreciation of the ruble against foreign currencies substantially improves the price competitiveness of domestic output compared with imports. Russian imports of agricultural and food products have dropped by about three-fourths, causing U.S. agricultural exports to Russia—2 percent (\$1.36 billion in 1997) of total U.S. agricultural exports before the crisis—to plunge by around 80 percent.

Russian gross domestic product (GDP) is projected to fall about 5 percent in 1999, much the same as in 1998, and could drop in 2000 as well, further decreasing consumer demand. More important for agricultural trade is that crisis-induced capital flight and lack of confidence in the ruble are likely to result in further depreciation of the ruble, keeping agricultural imports depressed.

Devaluation Makes Russia's Agriculture More Competitive

The public debt default and currency devaluation that triggered Russia's economic crisis resulted primarily from three events: 1) the drop in world prices for Russia's main exports (energy and metals), which put pressure on the ruble and reduced export tax revenue; 2) a large rise in the government's budget deficit (from about 4 percent of GDP in 1997 to 7 percent in 1998) as a result of increased expenditures; and 3) the Asian economic crisis, which created a spillover effect that eroded investor confidence in Russia.

The crisis has generated large-scale capital flight, continuing depreciation of the ruble against the U.S. dollar (about 75 percent since August 1998), dramatic inflation (100 percent since August), and a falling GDP. The effects on the agriculture and food economy, particularly the stimulus to output, have not yet fully played out; nor are they likely to be quickly reversed. With domestic capital flight expected to continue and foreign investment likely to remain depressed, Russia's 1999 GDP is projected to decrease to \$120 billion at the current exchange rate, and debt repayment obliga-

tions to the West will total \$17 billion, about 14 percent of GDP.

The crisis has reduced demand for food and lowered food consumption, because substantial depreciation of the ruble significantly raises domestic prices for foodstuffs. Russia is now mostly a free-trading country in agriculture and food—i.e., the government does not overly restrict movement of products into or out of the country—so world market prices largely determine domestic prices faced by both consumers and producers in Russia (at least for traded goods). Even with stable world prices, ruble-denominated prices rise as the ruble weakens.

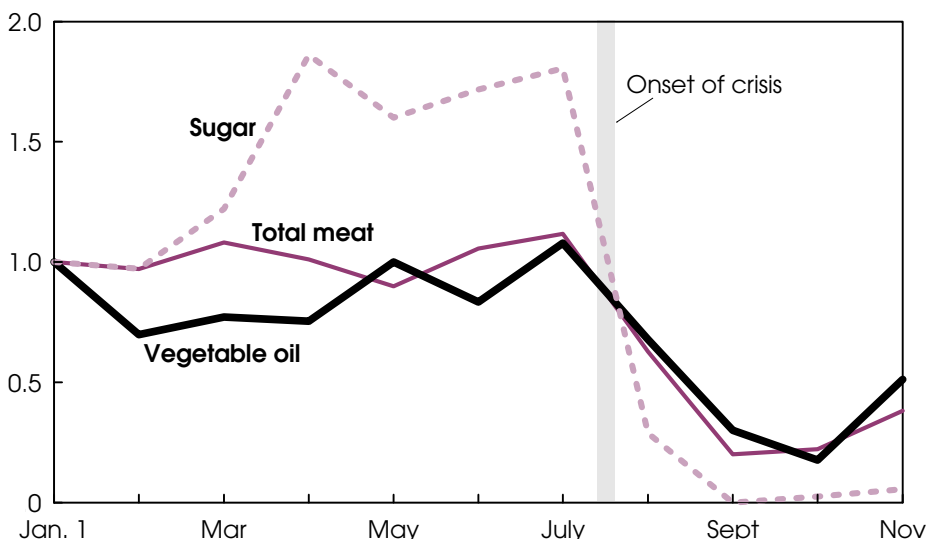
Reduced consumer wealth and income have also contributed to declining consumer demand for food. The government's debt default has led to a chain of events (including collapse of the banking system) that have wiped out most of the value of ruble-denominated financial assets in Russia—bank accounts, bonds, and corporate stock. In addition, the fall in GDP has hurt incomes by increasing unemployment, and high inflation has reduced consumer purchasing power by substantially lowering real income.

Nevertheless, ruble depreciation has improved the price competitiveness of all trade-competing sectors of the Russian economy, one of the few benefits the country has experienced from its current economic problems. The crisis should therefore help, rather than hurt, Russian agriculture. Depreciation of the ruble has substantially improved the price competitiveness of Russian output relative to imports, and at the same time agriculture's terms of trade have improved, i.e., prices received for traded agricultural goods have increased more than prices paid for inputs. Although official statistical information is not yet available, evidence from Russian sources, including newspaper reports and discussions with agricultural specialists in Russia, indicates that Russian producers, particularly of livestock goods, are responding to ruble depreciation by expanding output. The effect of ruble depreciation alone should be an increase in production, but Russian agriculture continues to face many difficulties that could result in output of major commodities falling in 1999.

World Agriculture & Trade

As Crisis Hit, Major Russian Food Imports Plummeted

Index (Jan. 1998=1)



Source: 1997 Russian Statistical Yearbook.
Economic Research Service, USDA

Russian agricultural imports are taking a double hit from the income-induced drop in consumer demand and from the depreciation-induced rise in import prices. In fourth-quarter 1998, the total value of agricultural and food imports was only about one-fourth the value of a year earlier.

Russia's imports of foodstuffs consist mainly of meat and other high-value products (HVP's) such as fruit, processed foods, beverages, and confectionary products. Consumer demand for these goods is more sensitive to changes in income than demand for more staple foods. Since destruction of ruble-denominated financial assets during the crisis has hurt mainly the more affluent population—the driving force behind the growth of HVP imports—the crisis-generated drop in wealth and income is hitting these imports particularly hard. Total consumer demand for meat and other HVP's over the next couple years should continue to fall.

Crisis Has Slashed Russian Meat Imports

According to official Russian trade statistics, agricultural imports in 1996 and 1997 totaled \$9.2 and \$10.3 billion, and 1998 pre-crisis import flows were about the same as in 1997. Meat (beef, pork,

and poultry) is Russia's main agricultural import—accounting for almost 30 percent of imports—with the U.S. the dominant supplier of poultry and Europe the main provider of beef and pork. The Russian crisis has reduced Western meat exports to Russia by about three-quarters.

Poultry is the primary U.S. agricultural export to Russia, accounting in recent years for about two-thirds of the total value of U.S. agricultural and food exports to the country and about half of total U.S. poultry exports. Russians prefer poultry dark meat, complementing U.S. consumers' preference for white meat. In the past 2 years, imports from the U.S. accounted for about 55 percent of Russia's total poultry consumption. Since August, U.S. poultry exports to Russia have dropped to 20-25 percent of the previous volume, and no major rebound is expected in the near future. The drop in exports has affected U.S. poultry prices; the U.S. price for chicken leg quarters (which largely determines the world price) has fallen 50 percent since the crisis began.

Russia is also the EU's main export market for beef and pork, and EU sales of these products to Russia have declined about 75 percent since the crisis hit. The drop in beef and pork imports by Russia

has hurt the reforming countries of Central and Eastern Europe (CEE) as well. These countries now trade with Russia using currency rather than government-negotiated barter, so trade is strongly affected by movements in exchange rates. Russian purchases account for 30 percent of Poland's total agricultural exports and 10-15 percent of exports from Hungary and the Czech Republic. Pork is their dominant export, and Hungary reports that pork exports to Russia have virtually stopped. Because of the lower quality of their output, CEE countries probably face more difficulty than Western Europe in finding alternative markets.

Newly Independent States (NIS) neighbors have also been net agricultural exporters to Russia, and they too have experienced a crisis-induced disruption of trade. Particularly hard hit by ruble devaluation are Kazakstan's traditional exports of grain and meat to Russia. NIS trading partners have responded to the crisis by expanding barter trade with Russia, already strong before the crisis, taking agricultural goods in return for energy and metals.

Russia's crisis has hurt other NIS economies, not only through the trade effect, but also through capital flight contagion. In 1998, GDP in these countries fell a total of about 3 percent.

Food Security Concerns Spur Food Aid

The economic crisis has raised concerns about possible food shortages in Russia. Extremely bad weather in 1998 made it a poor year for Russian agriculture, especially the grain sector. The USDA estimate for Russia's 1998 total grain output is 48 million metric tons (mmt), compared with an unusually high 88 mmt in 1997 and a 5-year average of 80 mmt per year.

Despite last year's poor harvest, domestic agricultural supplies appear adequate to prevent widespread food shortages. Russia consumes about 20 mmt of food grain a year. Food grain production in 1998 fell below that level, but the quality was high, and drawing on sufficient carryover stocks from the 1997 bumper crop, Russia was able to meet overall domestic needs.

World Agriculture & Trade

Estimating the Share of Imports in Russia's Food Consumption

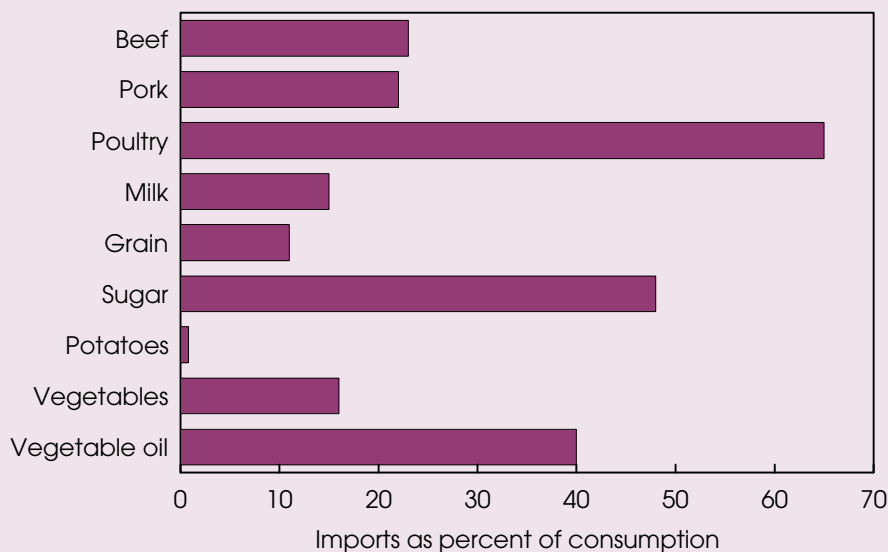
USDA's Economic Research Service (ERS) calculates the share of imports in Russia's food consumption by adjusting Russian data on both trade and consumer expenditures. The first step is to estimate the value of Russian food imports in a given year. Russian statistical sources concede that the country's official trade data (in *Customs Statistics of the Foreign Trade of the Russian Federation*) understate imports by 20 to 30 percent. The understatement occurs mainly because the data exclude barter trade between entities below the level of the national government, and they also exclude "shuttle trade" conducted by small-level traders among the Newly Independent States.

ERS values food imports at the retail level by multiplying quantities of goods imported by their Russian ruble retail price, thus adding the costs of processing, internal transportation, and retail sale. Then ERS corrects for the omitted trade by adding 30 percent to this value of food imports.

The next step is to estimate the value of total Russian food consumption. ERS derives the value of food consumption, measured in retail prices, from data on total consumer expenditures (in *Russian Statistical Yearbook, 1997*) and adjusts to include agricultural products consumed on the farm as well as foodstuffs distributed by the state to entities such as the military, hospitals, and orphanages.

The calculation indicates that imported foodstuffs accounted for about 20 percent of Russia's total food consumption in 1997.

In 1997, Imports Provided Under 25 Percent of Many Foods Consumed in Russia



Based on volume.

Sources: *Customs Statistics of the Foreign Trade of the Russian Federation* and *1997 Russian Statistical Yearbook*.

Economic Research Service, USDA

The drop in Russia's food imports is not a threat to the country's overall food security. Contrary to a commonly held misconception that Russia imports over

half its total food, USDA's Economic Research Service estimates that during the past couple of years imports accounted for only about a fifth of Russia's

total food consumption. The only major foodstuff for which imports provide over half of domestic consumption is poultry. However, imports do account for over half of food consumption in major cities such as Moscow and St. Petersburg.

Even with adequate food production, the economic crisis has negatively affected the distribution of food to segments of the population and regions of the country. As poverty increases because of rising unemployment and inflation, food is less affordable to a growing share of the population. In addition, many agricultural surplus-producing regions within Russia, in order to protect their own consumers, are restricting the outflow of foodstuffs. This can prevent food-deficit regions, particularly in the north and far east, from obtaining needed supplies even if they are willing to pay higher prices.

Both the U.S. and EU have responded to these food security concerns with food aid packages, including provisions for targeting some of the food to needy population groups and regions. The U.S. package includes donations worth about \$589 million (\$409 million for 1.9 mmt of commodities and \$180 million for transportation) plus a \$520 million trade credit for Russia to purchase 1.3 mmt of commodities such as corn, soybeans, and meat under P.L.-480 Title I. The donated U.S. commodities include 1.7 mmt of wheat from the Commodity Credit Corporation and 0.2 mmt of various commodities from the U.S. Food for Progress Program. The EU package provides 1.8 mmt of agricultural products (including 1 mmt of wheat) worth \$470 million. Most of the U.S. and EU food aid shipments are to be sold on the market at existing prices, with the revenue to go to the state pension fund. However, part of the Food for Progress donation is to be distributed by private voluntary organizations to the poor and elderly, while the remainder is to be sold, with the revenue supporting seed research institutes and credit facilities.

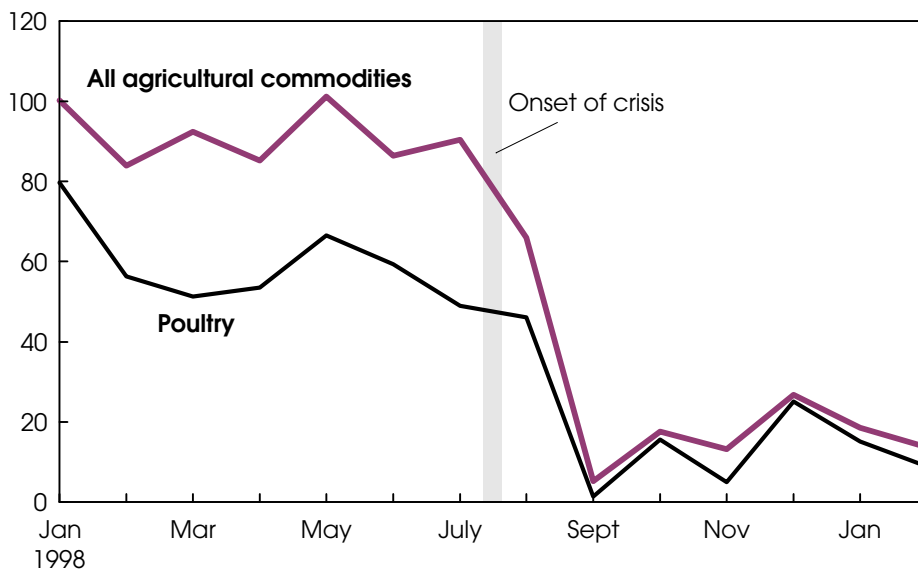
Russian Ag Policies Are Slow to Change

The main effect of the crisis on Russian agricultural policy has been a dramatic drop in federal subsidies to the sector—about 80 percent in real terms compared

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U.S. Poultry and Other Ag Exports to Russia Have Plunged

\$ million



Source: Foreign Agricultural Service, USDA.
Economic Research Service, USDA

with 1997—though subsidies from regional budgets fell less. The declining subsidies reflect the crisis-induced need to reduce spending rather than major rethinking about the general desirability of government support for agriculture.

Agricultural reform in Russia has succeeded in making farms and other enterprises responsive to market price signals and competitive pressures (particularly from imports). However, there has been little reform in farms' internal operations. The former state and collective farms, although officially reorganized mainly as joint-stock companies, have done little to change their actual organization, system of management, and work incentives. Private farms, not to be confused with household private plots on large farms, account for only about 2 percent of total agricultural output.

The current dominant issue involving agriculture is the status of the land code proposed by the Russian legislature (Duma). Currently, most land is owned and controlled by large former state and

collective farms. The conservative Duma's draft code does not allow purchase and sale of land for agricultural use, but rather allows the buying and selling of small plots of land only for purposes that are economically insignificant, such as building a *dacha* (country cottage). The more reformist government of President Yeltsin has been resisting passage of such a restrictive code.

Elections for the Duma will be held in December 1999, and for President in June 2000. A new legislature and president could bring policy changes, particularly if economic fallout from the crisis continues to be high. Major policy changes are more likely to be made economy-wide than initiated at the sector level, but any significant changes involving spending, taxes, and prices likely would affect the agriculture and food economy. **AO**

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June Releases—USDA's Agricultural Statistics Board

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

June

- 1 Crop Progress (4 p.m.)
- 2 Broiler Hatchery
- 3 Dairy Products
Egg Products
Poultry Slaughter
- 4 Dairy Products Prices
(8:30 a.m.)
Minn.-Wis. Base Month
Price - Final 1996-98
Basic Formula Milk Price
(Wisconsin State Report)
- 7 Crop Progress (4 p.m.)
- 9 Broiler Hatchery
- 11 Crop Production (8:30 a.m.)
Dairy Products Prices
(8:30 a.m.)
- 14 Crop Progress (4 p.m.)
- 15 Milk Production
Potato Stocks
- 16 Broiler Hatchery
Turkey Hatchery
- 18 Dairy Products Prices
(8:30 a.m.)
Cattle on Feed
Cold Storage
- 21 Crop Progress (4 p.m.)
- 22 Chickens & Eggs
- 23 Broiler Hatchery
NASS Facts Newsletter
(4 p.m.)
- 24 Catfish Processing
Cherry Production (Tent.)
- 25 Dairy Products Prices
(8:30 a.m.)
Hogs & Pigs
Livestock Slaughter
Peanut Stocks &
Processing
- 28 Crop Progress (4 p.m.)
- 29 Agricultural Prices
- 30 Acreage (8:30 a.m.)
Grain Stocks (8:30 a.m.)
Broiler Hatchery

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Michael Kurtzig

Imports Rising in Middle East & North Africa

The Middle East and North Africa (MENA) region is a major global market for agricultural and food products. As a region, it is one of the largest producers and importers of food and feed grains in the world—the region includes Egypt, the largest wheat importer in the world, and Turkey, one of the largest wheat producers. The region's share of total world grain imports during 1996-98 is estimated at 22 percent, its share of wheat imports at 25 percent and barley at 41 percent. The region is also a major importer of oil meals and vegetable oils; its share of world oil meal imports is 8 percent and of vegetable oils about 11 percent, both of which continue to grow.

The MENA region—encompassing Algeria, Egypt, Libya, Morocco, Tunisia, Bahrain, Cyprus, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, and Yemen—is characterized by rapidly growing populations, rising real incomes, and changing diets as consumers reduce their intake of grains and add more livestock products. While the overall population is growing, the region is experiencing declining farm populations and declining land in farms, and increasing

urbanization has reduced the availability of water for agriculture.

The combination of increasing demand for food and decreasing resources for agriculture has overwhelmed the region's capacity to meet its consumption needs. Reduced but still considerable government intervention and rising competition from continuing trade liberalization have added to the difficulties the region's producers face in meeting the demand for more and different foods. As a result, food and agricultural imports have grown from an estimated \$26.7 billion in 1990 to \$34.5 billion in 1997, rising an average 3.6 percent per year.

Imports are led by food and feed grains, oilseeds and products, cotton, tobacco, livestock and livestock products, and dairy and dairy products. On average, food imports represented 15-20 percent of total imports over the past two decades. However, they represent a much higher proportion in the Persian Gulf countries, where some nations are totally dependent on imports to meet their food needs. Kuwait, for example, imports 100 percent of its food, and food imports made up 30 percent of average total imports for Egypt.

Iran, Turkey, and Algeria are also very large importers of agricultural products.

The region is also an exporter of food and feed grains; fruits, nuts and vegetables; cotton; and tobacco. Exports totaled over \$13.1 billion in 1997 and have increased at a rate of about 6 percent per year since the early 1990's. With the exception of some fruits and vegetables, few exports are destined for other countries within the region; most go outside the region, chiefly to the European Union (EU).

Population, Income Drive Demand

Population growth is a primary factor driving increases in demand for food and agricultural products, and although growth rates have declined in recent years, even small percentage increases in a population approaching 400 million have major impacts on demand. Average population growth rate during 1976-97 was 3.3 percent for the region as a whole, compared with under 1 percent in the U.S. More than half the region's population is under 25 years of age, and MENA populations will continue to increase substantially even if more effective efforts are undertaken to restrain population growth.

A second factor driving food demand has been income. From the 1960's through the first half of the 1970's, the region experienced strong and accelerating economic growth as higher oil prices generated higher export revenues and increased investment. Between 1965 and 1980, the region led all other developing regions except East Asia in annual per capita income growth, estimated at over 3 percent. Governments sought to distribute new-found revenues through high price supports for farmers and high food subsidies for consumers, which led to increased demand for cereals and related products and for fruits and vegetables. Rising incomes have increased demand for red meat and poultry, which had previously been low compared with high-income countries like the U.S. To meet increasing demand for meat, governments in the region have supported expanding domestic meat production rather than increasing meat imports, leading to significantly higher require-

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Total Ag Imports Into the Middle East and North Africa Have Increased Since the Early 1990's . . .

	Average		1996	1997
	1990-92	1993-95		
	\$ billion			
Saudi Arabia	3.99	3.67	4.93	4.91
Turkey	1.87	2.57	4.01	4.09
Egypt	2.72	2.81	3.86	3.44
Algeria	2.38	3.03	2.78	2.76
Iran	2.64	2.66	2.74	2.75
United Arab Emirates	1.77	2.10	2.56	2.29
Israel*	1.25	1.59	2.04	1.99
Morocco	0.93	1.41	1.70	1.43
Libya	1.26	1.16	1.24	1.28
Iraq	1.29	0.95	1.00	1.05
Tunisia	0.57	0.78	0.82	0.91
Jordan	0.73	0.78	0.70	0.78
Other	4.58	6.09	7.09	6.78
Total	25.95	29.59	35.47	34.45

*Excludes Gaza and the West Bank.

Source: UN Food and Agriculture Organization.

. . . and U.S. Market Share Has Remained Stable

	Average		1996	1997	1998
	1990-92	1993-95			
	\$ million				
U.S. shipments:					
Egypt	715	994	1319	964	904
Turkey	272	395	637	734	664
Saudi Arabia	540	490	551	668	504
Israel**	328	412	617	537	322
Algeria	478	504	322	315	256
Morocco	149	216	244	167	122
Iraq	110	1	3	82	96
Jordan	140	157	165	142	87
Tunisia	87	115	101	123	81
Other	326	632	540	449	488
Total	3,144	3,918	4,499	4,181	3,525
	Percent				
U.S. share of region's imports	12	13	13	12	--

**Includes Gaza and the West Bank.

-- = Not available

Source: Bureau of the Census, U.S. Department of Commerce.

Economic Research Service, USDA

ments for feed grains and protein meals, supplied largely through rising imports.

Gains in food demand have withstood the financial stresses of a series of sharp oil price declines in the early 1980's. Despite a dramatic collapse in income growth—the oil export revenues of 11 MENA states plummeted from a record \$240 billion in 1980 to around \$110 billion in 1985—the impact on the region's food consumption and food import capacity was marginal.

By the second half of that decade, GDP growth throughout the MENA region barely kept pace with population growth. Non-oil economies like Jordan and Turkey experienced spillover effects as labor demand subsided within the region and in Europe, which was experiencing a recession. Returns from investments made abroad in preceding decades were also declining rapidly as governments drew on those assets to supplement declining revenues. This left many of these economies with growing external indebtedness and financial imbalances.

Imports actually continued to increase, although at a slower pace than during the boom years. Among the region's high-income, oil exporting countries—Saudi Arabia, Libya and Kuwait—agricultural imports were not greatly affected. Because the value of petroleum exports far exceeds the cost of agricultural imports, even during the 1980's, governments were able to maintain or even increase agricultural imports by reducing expenditures in other categories.

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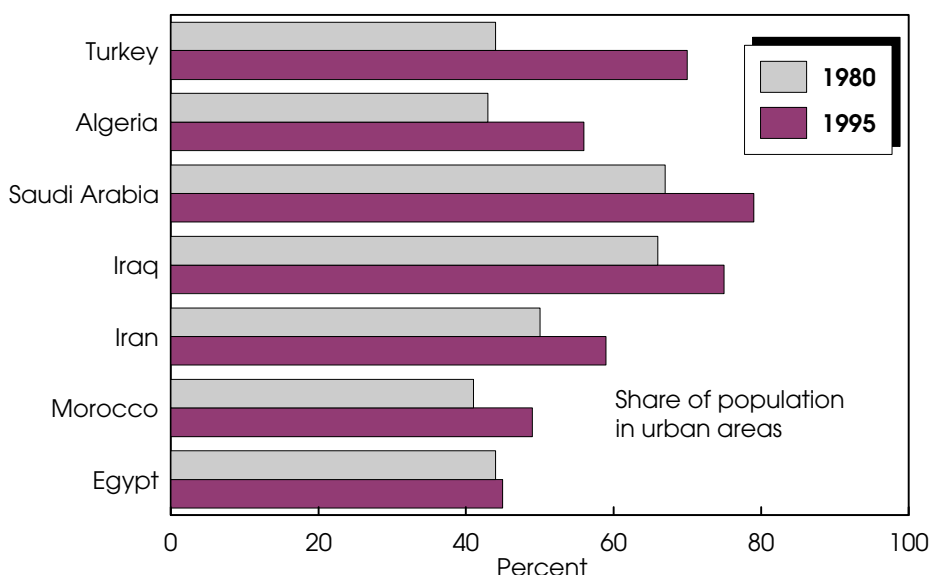
A third factor increasing the region's food demand has been growing urbanization. Urbanization may actually be the most influential determinant of food imports because of its effect on type of diet, food preferences, and standard of living in the region. The attraction of urban life, with better education and health facilities, a more reliable food chain, and often more stable and plentiful employment opportunities, is changing the region's demographics.

Population movements to urban areas have shifted food preferences toward increased consumption of fresh fruits and vegetables, processed cereal products—e.g., pastas, cookies—and certain livestock, dairy, and poultry products. In Turkey, increased consumption of poultry and reduced consumption of mutton and lamb has been a result of rural-to-urban migration. Rural villagers tend to slaughter and consume their own animals—normally sheep. Poultry is processed mostly in slaughterhouses which employ modern marketing and handling techniques to serve the preferences of increasingly health conscious urban dwellers for reduced fat products, as well as for ease of preparation and relatively low prices.

The high price of beef relative to poultry—generally triple—has accelerated growth in poultry's share of meat consumption and led to higher poultry production and imports. In Saudi Arabia, kg per capita consumption of poultry rose from 25 kg in 1980 to 33 kg by 1995 (1 kg = 2.2046 lbs.). At the same time, consumption of beef and veal decreased from 6.4 kg per capita to 3.9 kg because of their relatively high prices.

The rapid expansion of fast-food outlets in Saudi Arabia and other countries has also accelerated growth in consumption of poultry, as have efforts to raise the protein content of local diets at relatively low cost. In Egypt and Turkey, increased poultry consumption comes primarily from a rise in per capita consumption, although still low by western standards. In Israel, however, increased poultry demand is primarily the result of population increases, particularly immigration from Russia.

Region's Population Shift to Urban Areas Has Been Most Rapid in Turkey



Source: International Monetary Fund.
Economic Research Service, USDA

Poor Growing Conditions Constrain Production

The agricultural industry in the MENA region faces a difficult growing environment and consequent variability of production, which hampers the industry's ability to respond to increased demand in the region. A very large proportion of the land, about 70 percent, is unusable for agriculture and presents difficulties for improvement as rangeland, and a large share of arable land has shallow, erodible soils with low organic content. Rainfall is low and erratic and occurs most often during winter, when cold temperatures inhibit growth. Summers are hot, increasing the amount of irrigation necessary for crop growth, but frequent droughts, particularly in North Africa, as well as competition with urban and industrial water demands limit the availability of water for irrigation. The high salt content of much available water further complicates efforts to irrigate.

Finally, farms in the region tend to be small and fragmented. In Turkey, for example, two-thirds of the 4 million farm holdings cultivate less than 5 hectares (1 hectare=2.471 acres) each, often distributed in several noncontiguous parcels. A problem common throughout the region,

such dispersed farming has for decades prevented economies of scale in production, inputs, and marketing, raising the cost of production and keeping agriculture relatively inefficient.

Irrigation, despite its limitations in the region, has been a critical factor in raising productivity. Over the two decades ending in 1995, while total agricultural area increased 12 percent, irrigated area increased an estimated 54 percent—from 15.9 million hectares to 24.5 million hectares. But the extent of irrigation use varies among countries in the region. All agriculture in Egypt is irrigated, as is most in Saudi Arabia, while in Algeria less than 10 percent of agricultural land is irrigated and in Turkey only 15-20 percent. Irrigated land is devoted largely to intensive agriculture, and its increased use parallels a rise in exports since 1975 of higher valued agricultural commodities such as fruits and vegetables.

The potential for substantial additional development of irrigated agriculture in the region is limited. With 7 percent of the world's population, the region has less than 0.5 percent of the world's fresh water resources. Its per capita renewable fresh water resources are only one-tenth the world average, and the agricultural sector

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already accounts for more than 80 percent of total water consumption. As municipal and industrial water demand increases and water availability per capita declines with population growth, the agricultural sector faces growing competition for freshwater resources, particularly given the substantially higher economic returns from municipal and industrial water use and the consequent greater willingness of municipal and industrial sectors to pay for additional water.

Estimates for Israel, Syria, Jordan, the West Bank, and Gaza suggest these areas currently use virtually all replenishable water sources. In dry years, annual use frequently exceeds annual replenishable sources and some uses must be restricted. For example, in 1998/99, consumption for agricultural uses in these areas was cut by 40 percent. In many countries in the region, projections of water requirements predict significant water deficits as early as the year 2000.

Implications for U.S. Trade

What does the MENA region's food demand and supply situation mean for U.S. agricultural exports? The U.S. is a major supplier of agricultural commodities to the region, with shipments averaging \$4.1 billion per year during 1996-98, a 29-percent increase over 1990-92 and 4 percent above the 1993-95 average. Values for 1998 show some decrease, primarily because of lower prices. Grains and oilseeds continue to dominate U.S. sales to the region, as production in the region cannot expand sufficiently to meeting rising demand.

During the same period, strong gains by volume were also made in U.S. shipments of meat and meat products (68 percent), fruits and preparations (81 percent), nuts and preparations (85 percent), vegetable oils (97 percent), soybeans (122 percent), and tobacco (307 percent). Expansion of poultry production in Turkey, Egypt, and Israel accounts for the steep rise in soybean exports. Simultaneously, U.S. sales of protein meals (mainly soybean meal) reached 1.1 million tons in 1998, continuing an upward trend that began in the early 1990's. The rise in meat and meat products and in fruits and nuts is due to the increasing

diversification of diets in the region, as incomes rise and consumers become more health conscious. Increased U.S. tobacco exports to the region are the result of the development of the Turkish cigarette industry.

Changes in technology are also altering the composition of some U.S. exports to the region. For example, U.S. flour exports to the region, mainly to Egypt, averaged over 500,000 tons in the mid-1990's, but are currently below 10,000 tons and unlikely to recover. The expansion of new, modern milling capacity by the private sector in Egypt has made the price of imported flour sufficiently higher than the cost of local flour to make the imported product uncompetitive. That has not been the case in other countries—regional flour imports have remained at 2 million tons in recent years, with Libya, Iraq, Yemen, the UAE the largest importers. However, the EU, because of its substantial restitution payments to exporters, remains the principal supplier.

The opening of a new soybean crushing plant in Egypt likely will reduce the region's imports of U.S. soybean meal, while increasing imports of U.S. soybeans. At full capacity, Egypt may even export some meal in competition with U.S. meal exports to the region. On the other hand, Egypt's demand for corn will rise as its livestock and poultry sector expands with limited resources for expanding feed output. Since Egyptian importers, feed manufacturers, and other users generally prefer U.S. corn, which they consider reliable, the best quality, and consistent in meeting product specifications, U.S. corn exports should capture a large part of this increase.

Until April 1999, the U.S. had in place embargoes and sanctions against Iran and Libya. The U.S. continues to be a party to multilateral sanctions against Iraq. The combined agricultural imports of these three nations have averaged \$1.6 billion annually in the last 10 years. The only U.S. product included so far in the resumption of limited agricultural and food imports by Iraq under the United Nations oil-for-food program has been wheat. However, Iraq is a major importer of agricultural products and was a major market for U.S. grains and oilseeds until

late 1990. In the long-term, Iraq will again be a major importer of agricultural products, and the U.S. will be in a position to supply that market. U.S. sanctions against Libya have precluded U.S. exports to that market, and even with the recent lifting of sanctions, the Libyan market for U.S. exports will be slow to resume.

U.S. agricultural exports to Iran were halted by presidential decree in 1995. In April 1999, the U.S. dropped its embargo of food and medicine, opening a \$3 billion agricultural market to the U.S. Before the 1980 hostage crisis, the U.S. held a large market share, and after the release of hostages, U.S. sales resumed to \$281 million in 1981 and averaged \$112 million during 1993-95. During 1995, the last year before the ban, the U.S. shipped \$136 million worth of corn, rice, sunflower oil, and poultry products to Iran.

In 1999/2000, Iran is expected to import 5.5 million tons of wheat, an 83 percent increase over 1998/99, and 1.1 million tons of corn, up 10 percent. Imports of vegetable oil, oilcakes and meal, and rice are also likely to rise as a result of Iran's worst drought in 30 years. The U.S. has good prospects in the wheat and corn market and in sales of oilcake and meal. The barley market, another area of substantial likely imports, will be difficult for the U.S. to penetrate because of continued extremely low-cost Turkish and EU supplies.

For the region as a whole, U.S. market shares of MENA countries' imports will continue to be determined by price, credit, market size, and political considerations. The region will remain an important market for agricultural products in general, and especially for U.S. grains and oilseeds, particularly wheat, corn and oil meals, as well as for U.S. livestock and livestock products, nuts and preparations, fruits and preparations, and tobacco. On the whole, Egypt will remain a large wheat importer, as will Iran and most of the region. Saudi Arabia is likely to resume wheat imports as lower export earnings and tight budgets force reductions in agricultural subsidies and supports in an uncertain oil price environment. **AO**

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Resources & Environment



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Conservation Reserve Program Approaches Acreage Limit

USDA's Conservation Reserve Program, after accepting 5 million acres in its 18th signup in March 1999, stands just 5 million acres shy of its statutory limit of 36.4 million acres. With relatively little acreage due to expire in the next 3 years, the need to provide for joint Federal-State conservation reserve initiatives, and reserving 4 million acres for purposes associated with the Administration's Clean Water Action Plan, USDA's Farm Services Agency (FSA) noted in announcing the 18th signup results that future signups might not be able to enroll such large acreages.

Indeed, even before announcement of the 18th signup results, legislation was introduced that would raise the statutory cap on CRP enrollment to 45 million acres. Additional legislation was introduced following the signup that would permit the statutory cap to be exceeded if Congress appropriated sufficient funds to support an expansion. In light of these possibilities, analysis was conducted at USDA's Economic Research Service (ERS) of some likely changes in the program if the enrollment cap were increased.

The CRP is a voluntary, long-term cropland retirement program. Under the program, landowners and operators may bid

to enroll environmentally sensitive land for 10-15 years and receive an annual rent plus half the cost of establishing a permanent land cover on accepted acreage. First authorized in the 1985 Farm Act, the program was intended primarily to reduce soil erosion on highly erodible cropland. Secondary goals included protecting the nation's long-term capability to produce food and fiber, reducing sedimentation, improving water quality, fostering wildlife habitat, curbing production of surplus commodities, and providing income support to farmers. The 1990 Farm Act continued the CRP's emphasis on soil conservation as a program objective, but turned increased attention to improving water quality and addressing other environmental concerns and away from earlier commodity and income goals. The program's enrollment was capped at 36.4 million acres by the 1996 Farm Act, down significantly from the original statutory limit of 40-45 million acres.

For the most part, landowners and operators must bid competitively to enroll their land. Bids for participation in the regular CRP are accepted during fixed signup periods, then ranked according to established criteria. The top offers by rank are accepted and enrolled in the program, within the limits of the program's acreage

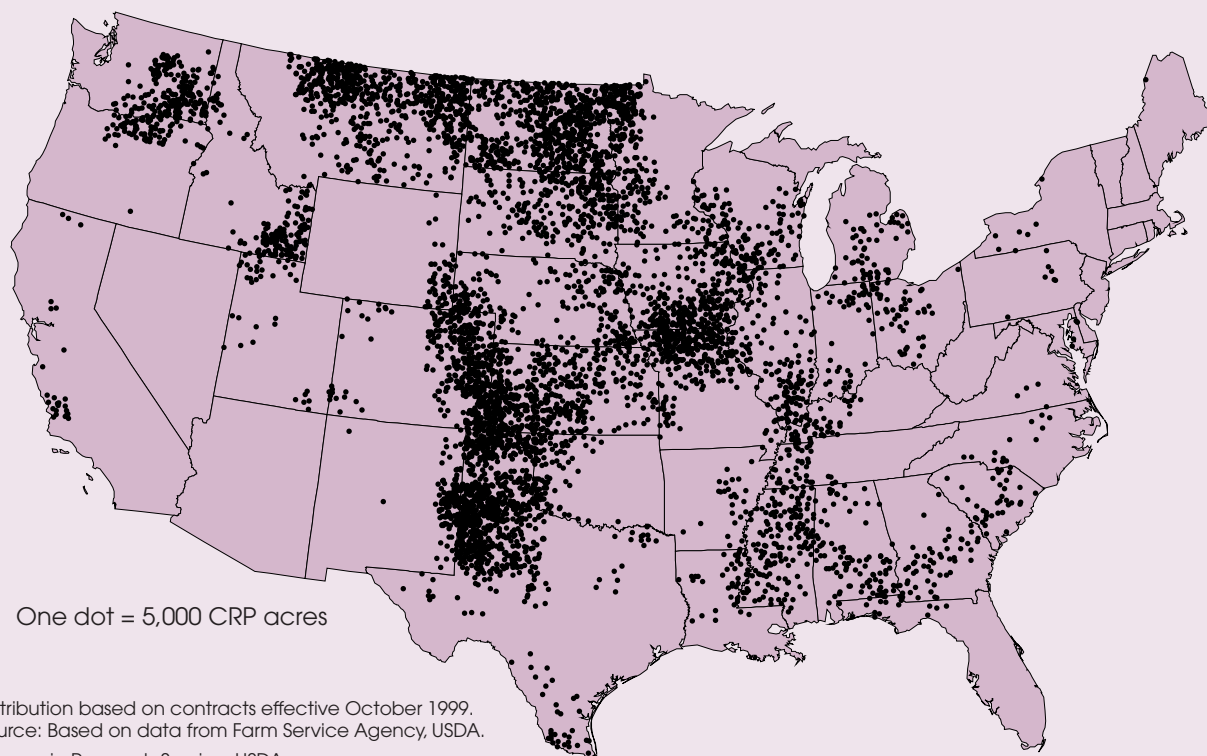
cap. Beginning with signup 15 in 1997, acceptance criteria placed relatively high emphasis on three factors—benefits to wildlife habitat, water quality, and erosion reduction—and incorporated lower weights for three others—practices that result in enduring benefits or improve air quality and bids located in conservation priority areas. The emphasis placed on the cost to taxpayers (from rental rates and cost-sharing asked by producers to enroll acreage) has varied over signups. These seven factors—the first six environmental and the last cost-related—comprise the Environmental Benefits Index (EBI), which has been instrumental in ranking land offers in order to obtain the most efficient program performance.

In addition to the regular, periodic CRP signups, USDA conducts a continuous signup of acreage dedicated to specific conservation practices, such as filter strips, riparian buffers, grassed waterways, field windbreaks, shelterbelts, living snow fences, salt-tolerant vegetation, shallow water areas for wildlife, and well-head protection areas. These practices involve relatively small parcels of land, usually portions of fields, but are expected to provide disproportionately large environmental benefits. Landowners and operators may enroll eligible acres under the continuous signup at any time without using the competitive EBI process if they are willing to accept a set payment rate from USDA. As of March 1999, about 841,000 acres were enrolled under the continuous signup program.

An additional continuous signup option related to the CRP is the Conservation Reserve Enhancement Program (CREP), a joint program of USDA and the states to address nationally significant but more state-specific environmental concerns related to agricultural use. Using resources of the CRP as well as those of participating states, the CREP provides financial incentives to encourage farmers and ranchers to enroll in long-term contracts to remove lands from agricultural production. About 22,000 acres have been enrolled in the CREP using the continuous CRP signup. As of May, CREP agreements have been signed with Illinois, Maryland, Minnesota, New York, North Carolina, Oregon, and Washington.

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CRP Acreage Is Concentrated in the Plains and Midwest

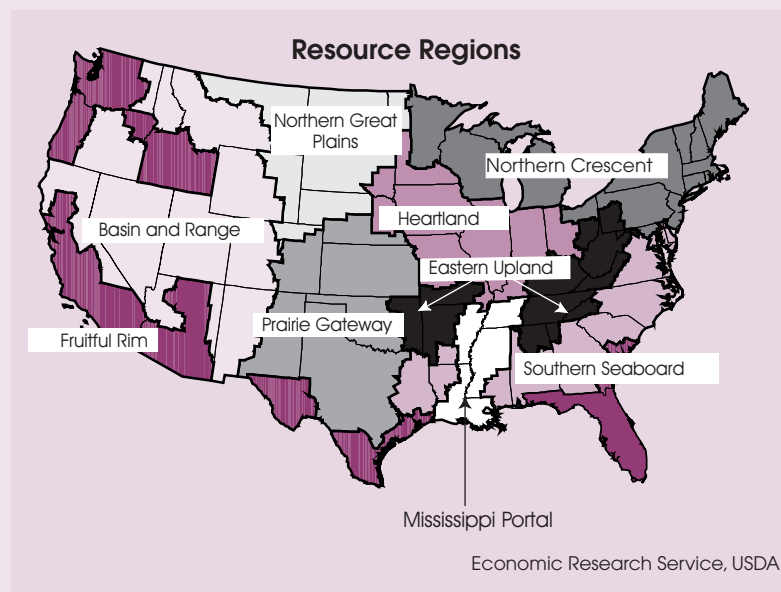


Regional Distribution of CRP Acres

	Oct. 1999	Expanded*
	<i>Million</i>	
Total CRP acres	31.3	45
	<i>Percent of total</i>	
Basin and Range	5	5
Eastern Uplands	2	2
Fruitful Rim	6	5
Heartland	18	21
Mississippi Portal	4	4
Northern Crescent	5	6
Northern Great Plains	26	25
Prairie Gateway	31	29
Southern Seaboard	3	3
	100	100

*ERS estimate. Assumes enrollment criteria are unchanged.

Economic Research Service, USDA



Resources & Environment

Recent Enrollments Yield High Environmental Scores

On March 4, the Secretary of Agriculture announced acceptance of approximately 5 million acres of the 7.1 million offered by landowners and operators for CRP enrollment during the 18th signup. USDA used the EBI to determine the amount of acreage to be accepted. Components of the EBI sum to a maximum of 560 points, though it is highly unlikely that any bid would achieve that score. USDA established a cutoff of at least 245 points on the EBI scale for accepted acres, reserving room within the program's overall acreage cap for acceptance of high-scoring bids which could be expected to be offered in subsequent signups.

When contracts for accepted bids from 18th signup go into effect on October 1, 1999, approximately 31.3 million acres out of a possible 36.4 million acres will be enrolled in the CRP, not counting additional enrollments under the continuous signup. The greatest amount of acreage enrolled will be in Texas, Montana, and North Dakota, each accounting for more than 10 percent of total enrollment, which continues the enrollment distribution prevalent before the 18th signup.

The EBI criteria and relative weights assigned to each factor have evolved since 1997 (signup 15), which complicates any comparison of accepted acres among signups. However, by applying the 18th signup EBI scoring procedure to data from earlier contracts, a comparison can be made for enrolled acreage across signups since 1997. The latest EBI scor-

ing procedure cannot be applied to data from signups before 1997, however, precluding comparisons with earlier years. Results of the comparisons of signups 15 through 18 indicate that land enrolled in signup 18 had the highest average EBI and the highest score for an aggregate of just the environmental components of the EBI (leaving out the cost factor).

...opportunities to enroll land through the regular signup process are much more limited than in the past.

While some of the increase is due to adjustment made since signup 15 to the manner in which air quality and enduring benefits points are awarded under the EBI, some of the increase in the enduring benefits term is attributable to increased shrub and wildlife habitat plantings, and to increased enrollment of restored wetlands. In particular, about 5 percent of acres enrolled during the 15th and 16th signups were restored wetlands, compared with 9 percent of acres in the 18th signup. In addition, scores for wildlife habitat benefits have also risen significantly since the 15th signup, primarily a reflection of producers' efforts to enhance the probability of bid acceptance by improving cover planted to benefit wildlife.

At the same time, however, another factor has partially counteracted this trend toward greater environmental benefits. The mean score for erosion reduction benefits has fallen for the last three signups. This is not surprising as the

amount of highly erodible acreage offered by producers has declined over the successive signups. The percentage of highly erodible acres enrolled in the program has declined in successive signups while the acreage of modestly erodible land with other environmental benefits has increased. Fields with an erodibility index of 8 or greater (defined as highly erodible for this article) comprised about 85 percent of acres enrolled during the 15th signup, but only about 66 percent of enrollment in the 18th signup. The percentages of highly erodible acres enrolled approximate the amount of highly erodible acreage offered. Much of the shift in land enrollment has been towards acreage eligible under wildlife criteria.

Also working against the high average EBI score earned by the greater quality of environmental benefits offered in the 18th signup has been a cost score lower than other recent signups. Producers have asked for higher rental rates—average rates for the 18th signup are the highest since the 13th signup in 1995, despite the decreased likelihood of acceptance. The higher per-acre costs reflects a shift in acreage enrollment toward the Midwest.

Remaining signups through the end of the program's current authorization in 2002 will likely not be as large as the 18th, since the program is now near the cap and relatively few currently enrolled acres are scheduled to expire before then. Only about 2.3 million acres will reach the end of their contracts over the next 3 years. Added to the 5.1 million acres remaining below the statutory acreage limit, that leaves room for enrollment or reenrollment of only about 7.4 million

The Average Environmental Benefits Index Score Increased in the Most Recent CRP Signups

Signup number (period)*	Average score for:							Cost**	EBI score***
	Wildlife benefits (max=100)	Water quality (max=100)	Erosion reduction (max=100)	Enduring benefits (max=50)	Air quality (max=35)	Conservation priority areas (max=25)	Sum of env. factors (max=410)		
15 (March 1997)	50	36	53	2	6	8	155	104	259
16 (Oct.-Nov. 1997)	63	40	41	11	14	13	181	97	279
18 (Oct.-Dec. 1998)	68	35	37	21	13	14	188	95	282

*Excludes the 17th signup—the continuous signup program between the 16th and 18th signups. **Higher score = lower CRP rent. ***Sum of environmental factor scores and cost score (rounded). EBI scores are standardized to the extent possible across signups to allow comparison. Weights from the 18th signup, including cost factor weighting, are applied to factors for the previous signups. However, criteria for some of the factors changed between signups, with the greatest change between the 15th and 16th signups.

Average rent per acre was \$39.23 in signup 15, \$45.19 in signup 16, and \$45.50 in signup 18.

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Resources & Environment

acres between now and 2002, unless the cap is raised. Given that the Clinton Administration's Clean Water Action Plan has reserved 4 million acres for the continuous signup, and the continuing need to provide for CREP agreements with the states, opportunities to enroll land through the regular signup process are much more limited than in the past.

How much expiring land USDA will reenroll if it is offered in future signups is uncertain. Of expiring land offered for reenrollment in the 18th signup, more than two-thirds was accepted. If high acceptance rates for currently enrolled land continue, then bidders with new land may face an even smaller probability of success in future signups. However, with the current EBI, a producer can increase the probability of acceptance by offering bids that provide substantial environmental benefits (such as better wildlife cover) or lowering rental payment requests.

What Might an Expanded CRP Look Like?

When Congress first authorized the CRP in 1985, it set an acreage cap of 40-45 million. Later legislation lowered the cap to its current level, but recent legislative efforts suggest renewed interest in raising the cap. If the acreage limit were increased, might the characteristics of acres enrolled in the program change?

An estimate of the distribution of enrolled acres in a 45-million-acre CRP may be made by combining information available from the NRCS's National Resources Inventory (NRI) with other information on the amount, location, and characteristics of acres that might be offered for enrollment, and assumptions about crop prices, production costs, management practices being employed, and rents and cost-shares bidders might ask. The NRI shows land characteristics, land cover, land use, and other physical variables.

The resulting simulation showed a lower mean EBI score for CRP acreage which would be expected since the EBI cutoff score would be lowered. Assuming eligi-

bility criteria do not change, the average erosion reduction factor of the EBI would decline most with increased acreage enrollment, consistent with recent experience of reduced offerings and enrollment of highly erodible acres. All other environmental factors of the EBI would remain relatively constant, so if the CRP were expanded, new enrollment would likely have less erosion reduction benefits compared to other environmental benefits included in the EBI. However, with greater acreage placed in conserving uses, total erosion benefits would still increase.

Under a program expanded to 45 million acres, allowing cropland with lower EBI scores into the program increases enrollment in all regions. Assuming potential bidders would indeed bid, model results indicate that no radical shifts in the geographic distribution of acreage would occur, though relatively more acreage would be enrolled in some regions compared with others. Under the simulated scenario, the relative share would increase only slightly in the Heartland and to an even lesser extent in the Northern Crescent. The Prairie Gateway, and, less so, the Northern Great Plains and Fruitful Rim, would in turn lose a slight share of acreage, even though total CRP acreage would still rise in those regions. The share of other regions would remain constant.

Limited opportunities now remain for new acreage to be enrolled in the CRP, with relatively little program acreage expiring through 2002, a desire to hold enrollment capacity in reserve for the continuous signup and the CREP, and a 36.4-million-acre enrollment cap. Unless legislative efforts to raise the acreage cap are successful, landowners who waited to enroll land through the regular CRP signups may now have waited too long. With relatively few opportunities for enrolling land under the CRP, eligible landowners who are interested in placing land in conserving uses may need to focus greater attention on the continuous signup and the CREP. **AO**

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July Releases—USDA's Agricultural Statistics Board

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

July

- 1 *Dairy Products*
- 2 *Dairy Products Prices*
(8:30 a.m.)
Basic Formula Milk Price
(Wisconsin State Report)
- 6 *Egg Products*
Poultry Slaughter
Crop Progress (4 p.m.)
- 7 *Broiler Hatchery*
Noncitrus Fruits & Nuts - Ann.
- 8 *Agricultural Cash Rents*
- 9 *Dairy Products Prices*
(8:30 a.m.)
Vegetables
- 12 *Crop Production* (8:30 a.m.)
Crop Progress (4 p.m.)
- 14 *Broiler Hatchery*
- 15 *Milk Production*
Turkey Hatchery
- 16 *Dairy Products Prices*
(8:30 a.m.)
Cattle
Cattle on Feed
Sheep
- 19 *Crop Progress* (4 p.m.)
- 20 *Cold Storage*
Farm Production
Expenditures
- 21 *Broiler Hatchery*
Agricultural Chemical Usage
- *Vegetables*
- 22 *Mink*
- 23 *Dairy Products Prices*
(8:30 a.m.)
Agricultural Prices - Ann.
Catfish Processing
Chickens and Eggs
Livestock Slaughter
NASS Facts Newsletter
(4 p.m.)
- 26 *Crop Progress* (4 p.m.)
- 28 *Broiler Hatchery*
- 29 *Peanut Stocks & Processing*
- 30 *Dairy Products Prices*
(8:30 a.m.)
Agricultural Prices
Catfish Production

Special Article

State Trading & Management of Grain Marketing in China

The role of state trading enterprises in the People's Republic of China is a key agricultural issue as China seeks membership in the World Trade Organization (WTO). Despite more than 15 years of economic reform, the government's state trading enterprises (STE's) continue to provide China with enormous power to manage the level and direction of the trade flows of several major agricultural commodities, including wheat, rice, and corn.

This control reflects multiple goals that include securing food supplies, protecting domestic production from foreign competition, stabilizing domestic grain prices, and controlling grain trade and the flow of foreign currency. However, WTO members are concerned that the lack of transparency in China's STE activities enables organizations to engage in trading practices that would place competitors at an unfair disadvantage.

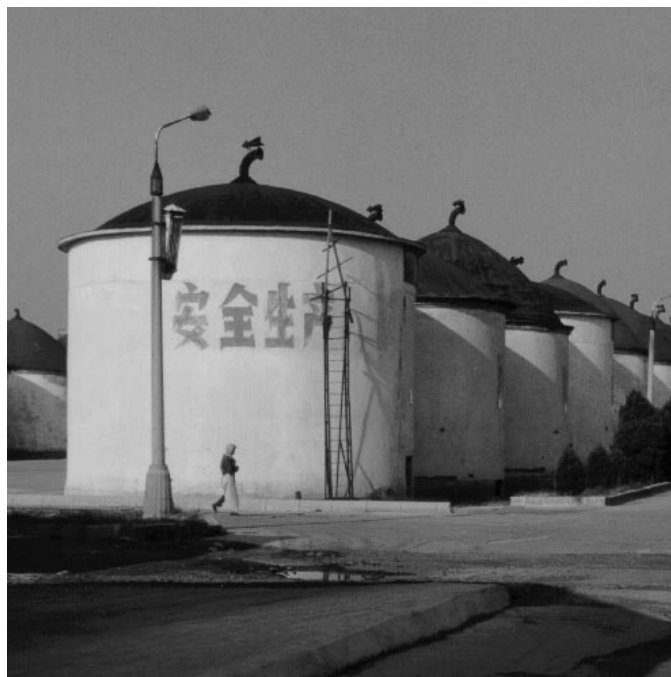
China's state trading enterprises are key participants in international grain trade. From 1992 to 1997, China's state trading regime managed an annual average 16.1 million tons of wheat, rice, and corn (imports 8.2 million and exports 7.9 million). The U.S. share of these imports averaged 31 percent during the period (ranging from 45 percent in 1994 to 21 percent in 1997), accounting for 35 percent of U.S. agricultural exports to China.

Wheat dominates China's state grain imports, with annual average imports valued at about \$1.3 billion during 1992-97. Annual wheat imports amounted to nearly 8 million metric tons or more than 7 percent of world wheat imports during that period. China exports corn and rice through STE's and captured nearly 9 and 5 percent of world corn and rice exports during 1992-97. Annual average export revenues were \$703 million and \$230 million.

Unlike some other STE's which are single national entities responsible for exporting a crop to maximize producer revenue (e.g., the Canadian and Australian Wheat Boards), state trading in China involves the entire chain of marketing organizations at the central and provincial levels engaged in domestic and international marketing. Examining each area is necessary to understanding the role of state trading in China because the policies and institutions of both are intertwined, and any attempt to successfully reform state trading practices will have to go beyond the traditional concept of just disciplining single enterprises.

Domestic Grain Policy Returns to Intervention . . .

Before 1980, government central planning dominated domestic grain marketing. The government's Grain Bureau purchased, transported, stored, milled, and retailed all grain leaving the farm. Then in the 1980's and early 1990's, open markets became increasingly important as the government was no longer the sole



Frederick W. Crook

purchaser and many provinces began phasing out a ration system that allowed urban consumers to purchase grain at low fixed prices (AO March 1997). But current grain policy, initiated in 1998, led to a reversal of the use of open markets for domestic distribution and an increase in government intervention in grain production and marketing. This relatively recent return to intervention in the domestic market has led to higher grain output and reduced demand for imports.

China's government and party leaders focus greater attention on domestic production and marketing policies for wheat, rice, and corn because these crops typically account for 88 percent of total grain output (based on the government's definition, which also includes other coarse grains, soybeans, potatoes, and pulses). Leaders have paid less attention to the production and marketing of other grains such as oats, sorghum, millet, barley, dry peas, and beans. State trading is not used for international marketing of these or most other crops, but is used for vegetable oil, wool, tobacco, and cotton.

As was the case prior to the 1980's, central and provincial governments exert considerable control over all aspects of China's food grain sector. Government-owned and managed Grain Bureaus located at province, prefecture, and county levels draw up grain supply-and-use tables to determine grain availability and needs for each administrative unit. Geographic units are classified as surplus if grain output exceeds local consumption

Special Article

State Trading in China Handles Nearly \$2 billion in Grain Imports

	1992-98 average	
	Imports	Exports
	\$ million	
Total grain*	1,847	1,076
Wheat	1,261	
Rice	179	230
Corn	148	703
Soybeans		121
Vegetable oil	1,102	
Sugar	382	
Tea		317
Tobacco	185	
Cotton	872	102
Processed silk		267
Unbleached silk		531
Crude oil		2,488
Refined petroleum	2,411	830
Coal		912
Chemical	2,787	
Tungsten		2
Antimony		47

*Includes some minor grains. State trading accounts for virtually all imports and exports of these commodities.

Sources: Government of China; Economic Research Service, USDA; and *China in the World Trading System: Defining the Principles of Engagement*, Kluwer Law International, 1998.

Economic Research Service, USDA

requirements, self-sufficient if output equals local requirements, or deficit if output is less than requirements.

Central and provincial governments determine the quantities of grain they need to purchase, and set purchase prices for wheat, rice, and corn procurement quotas. Farmers who have been assigned quotas must deliver the specified grains to local Grain Bureaus, which provincial and local governments use to manage the purchase and sale of key grains. Grain Bureaus also purchase above-quota grains at local market or support prices. Grain Bureaus are responsible for distributing major grains to military units, wholesale markets, feed mills, grain storage facilities, and grain and food processors, and part of the supply for urban residents in large cities.

Governors from surplus and deficit provinces jointly work out the major movement of grains across provincial borders. The movement of grain within provinces is managed jointly by provincial and local government leaders. For example, even though Liaoning Province is grain-deficit, grain from surplus counties in the province would be transferred internally before grain is brought in from other provinces. The national grain supply-and-use balance sheets enable national government leaders to assess grain export opportunities and import requirements.

... While STE's Continue to Manage Foreign Grain Trade

Current grain trade policy dates back to 1949 when China's leaders established a Customs Bureau, set up tariff schedules, organized a system to issue import and export quotas and licenses, and constructed an exchange control system. Along with its government-controlled economic planning system, China established foreign trade corporations to manage the import and export of grains, edible oils, and foodstuffs.

China's imports and exports of grains (wheat, rice, and corn) are determined by the central government in an annual plan formulated by the State Planning and Development Commission (SPDC), in consultation with the State Council (China's highest administrative body) and the Ministry of Foreign Trade and Economic Cooperation (MOFTEC). Related government departments, including the Ministries of Agriculture, Internal Trade (Commerce), and Foreign Trade, and the State Administration of Grain Reserves (SAGR) are consulted during the planning process. While China's National Cereals Oils and Foodstuffs Import and Export Corporation (COFCO) is highly visible in the world arena, its role is mainly as an agent. Upon approval by the State Council, the plan targets are transmitted to MOFTEC, which delegates the actual trading process to COFCO. COFCO receives a fee for its services.

For grain imports, MOFTEC orders COFCO to purchase specified quantities and to transfer them to Grain Bureaus at "Government Fixed Imported Grain Transfer Prices" (GFIGTP's). The GFIGTP's are generally based on average procurement prices for the same type of grain purchased in nine cities: Dalian, Qinghuangdao, Tianjin, Qingdao, Lianyungang, Shanghai, Xiamen, Zhanjiang, and Guangzhou. The GFIGTP's are independent of import prices.

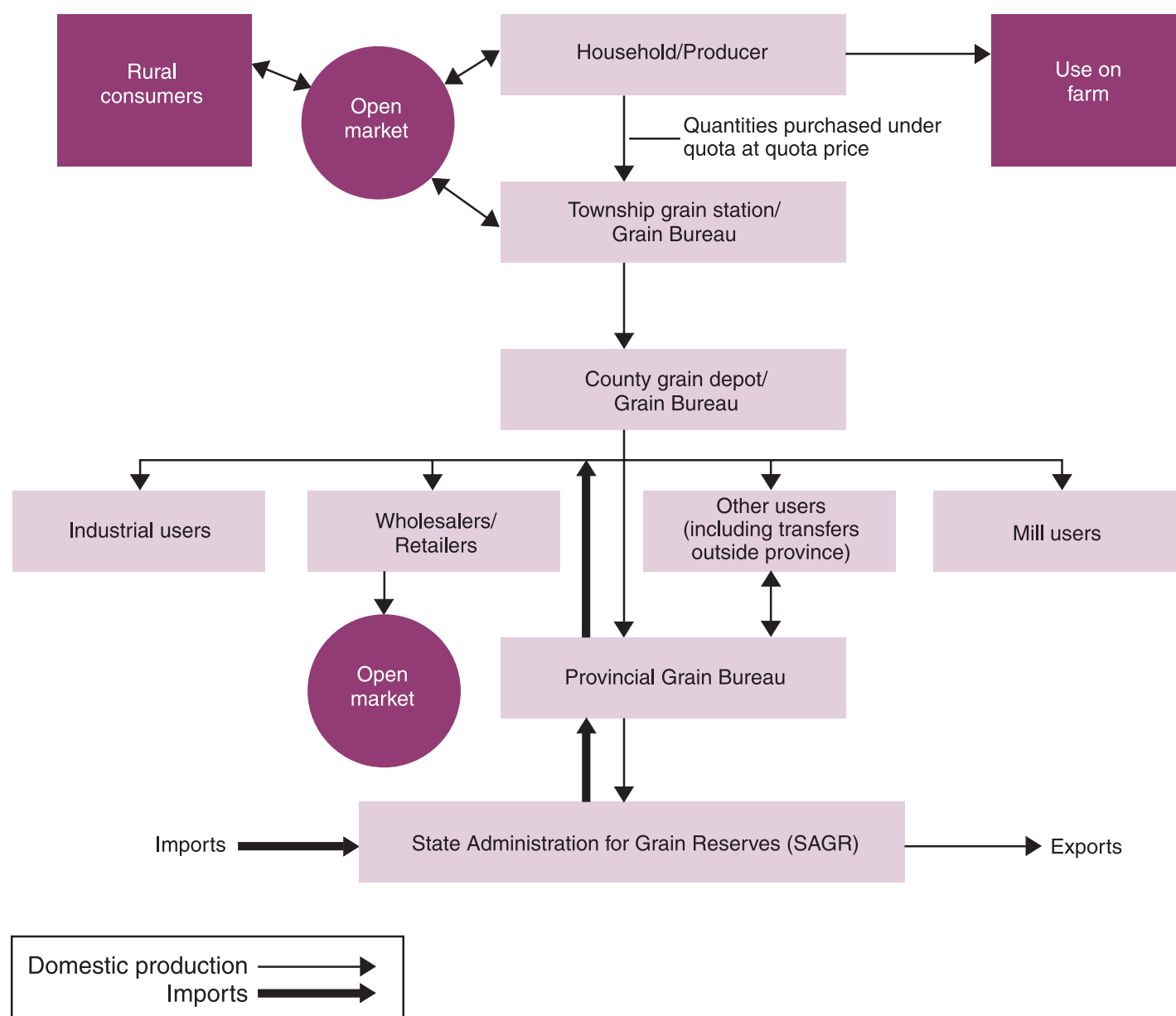
When COFCO makes a purchase on the world market and the import price is higher than the average procurement price, the Ministry of Finance subsidizes COFCO for the loss. USDA analysts estimate that from 1985 to 1998 China's central government allocated nearly 39 billion RenMinBi (RMB)—more than US\$8 billion—in an effort to insulate its domestic wheat market from international price fluctuations. When the import price is below the average procurement price, the government pockets the difference.

Procedures for importing grains, like decisions on import quantity, are hierarchical in nature. For example, if a provincial Grain Bureau cannot find wheat in the domestic market to meet its requirements, the governor can send a request to the SAGR in Beijing to obtain imported wheat. SAGR evaluates the request, along with requests from other provinces, and forwards a plan to import wheat to SPDC, MOFTEC, and the State Council.

If the State Council approves the application, MOFTEC directs COFCO to purchase a given quantity of wheat to be delivered to certain ports. The provincial Grain Bureau obtains bank loans and contacts COFCO to negotiate the contract with a foreign

Find more information and discussion of state trading enterprises at www.econ.ag.gov/briefing/wto/state.htm

China's Grain Marketing System in 1998



Economic Research Service, USDA

wheat supplier. COFCO arranges for the shipment, delivers the cargo to the designated port, and clears it through Customs, the China Commodity Inspection Bureau, and health and quarantine inspections. SAGR and the local Grain Bureaus then transport the wheat to storage and flour mills. Imported wheat is mostly for consumption in urban areas.

In the case of grain *exports*, MOFTEC is responsible for selling the quantity of grain prescribed in the annual plan. The quantities of grain to be exported are acquired by the provincial Grain Bureaus based on the "Government Fixed Exported Grain Trans-

fer Prices" (GFEGTP's). These prices are calculated as the sum of the fixed procurement price in the province where the export grain originates, plus a price differential that reflects quality variations and additional grain processing costs for meeting export standards and contract requirements.

The procedure for exporting grains is similar to that for imports. Upon approval from the State Council, SAGR decides how to allocate the export quotas to various provincial Grain Bureaus. The provincial Grain Bureaus then determine how much grain would come from various prefecture/county Grain Bureaus. The

Special Article

Institutional Players in China's Grain Sector

The **State Council (SC)** is China's highest administrative organ. The primary policy making body, the SC decides the quantities of grains to be purchased by the state, the level of procurement prices, stock building and stock use, and the level and direction of grain trade (imports vs. exports).

The **State Planning and Development Commission (SPDC)** is a high-level advisory body that makes economic policy recommendations to the State Council leadership. It recommends action to build or release grain stocks to achieve political and economic objectives, and it recommends the level of grain imports and exports.

The **State Administration for Grain Reserves (SAGR)** draws up grain balance sheets for the entire country and manages the central government's strategic grain reserves. SAGR became part of the State Planning and Development Commission in the 1998 government reorganization.

The **Ministry of Foreign Trade and Economic Cooperation (MOFTEC)** employs experts on international trade policy and trade conditions. It exercises a supervisory role over China's foreign trade corporations and it allocates trade quotas and issues import and export licenses.

The **China National Cereals Oils and Foodstuff Import and Export Corporation (COFCO)** negotiates prices and signs trade contracts, arranges shipping, and ensures shipments pass border inspections. COFCO reports to MOFTEC.

The **Grain Bureau** manages domestic marketing of grains at provincial, prefecture, and county levels. In 1982 it was reduced from a ministry to a bureau within the Ministry of Commerce (Ministry of Internal Trade). In the 1998 government reorganization, SAGR took over Grain Bureau functions at the national level. The system determines the fixed grain quotas that farmers must deliver to local grain stations.

approval for exports is transmitted to MOFTEC, which directs COFCO to negotiate prices with foreign buyers. The provincial Grain Bureau and its local Bureaus that receive export quotas would then deliver grains to ports for COFCO's delivery to foreign destinations.

Prior to 1989, China's COFCO had domestic monopoly power to import or export grain for the central government. COFCO had many branches in various provinces carrying out marketing functions for the central COFCO. Beginning in 1989, many provincial COFCO branches were transferred to provincial governments and given authority to trade specified commodities. Central COFCO, however, remained the central government's agent for wheat, rice, and corn trade.

WTO Membership Under Consideration

Although the volume of foreign trade has expanded dramatically since 1980 while government control over foreign trade has lessened in general, China continues to exercise considerable control

over the import and export of wheat, rice, and corn. On the domestic front, current grain policy initiated in 1998 has increased government intervention in grain marketing and led to reversal of the use of open markets. With the holding of large grain stocks, strong controls over domestic marketing, and the tools to manage grain imports and exports, China is in a powerful position to determine the level and direction of foreign grain trade.

On the whole, China has met its objectives to maintain control over foreign trade and to secure food supplies for its people, but this has been accomplished at a considerable cost. The collective result of domestic policies and actions by STE's can restrict access to domestic markets or push excess commodities into world markets, which is a source of concern for WTO members.

Negotiations for China's WTO membership are ongoing, and the final accession commitments are unknown until an agreement is signed. Nevertheless, the broad outlines of China's most recent commitment offer, as reported in the U.S. press, suggests that agreement will have a significant impact on the role and behavior of China's STE's.

China offered in April to bind all tariffs against future increase at their current level and to reduce tariff levels for a large number of agricultural products beginning in the year 2000, continuing through 2004. China would establish tariff-rate quotas (TRQ's) for several bulk agricultural commodities (major grains, in particular). For these products, a specified quantity of imports would be allowed at a low duty, and any additional imports would be assessed a high duty. (Current quota duties are generally more than 100 percent.) TRQ quantities would increase annually through the year 2004 and be subject to specific disciplines to put import decisions on a commercial rather than an administrative basis. These disciplines are designed to ensure a transparent and consistent system for allocating shares of the TRQ to end-users and ensure that quota-holders are not impeded in utilizing their quotas.

In addition, a specific share of each quota would be reserved for state trading enterprises (such as COFCO), and a specific share reserved for any other entity that has a license to trade. Finally, any quota reserved for a state trader not utilized by a predetermined date would automatically become available to be imported directly by any entity with a right to trade.

The potential for policy reform in China's agriculture is immense and the international community is currently engaged in discussions to move China toward a system that is more trade friendly. The ability to assess the effects of these reform attempts will depend, in part, on an understanding of China's complex agricultural system, including the changes it is undergoing and the implications for world food and farm trade. **AO**

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Statistical Indicators

Summary Data

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

	1998					1999				2000
	1998	1999 F	2000 F	III	IV	I	II F	III F	IV F	I F
Prices received by farmers (1990-92=100)	101	--	--	101	99	--	--	--	--	--
Livestock & products	96	--	--	97	97	--	--	--	--	--
Crops	107	--	--	104	101	--	--	--	--	--
Prices paid by farmers (1990-92=100)										
Production items	112	--	--	111	110	--	--	--	--	--
Commodities and services, interest, taxes, and wages (PPITW)	115	--	--	114	114	--	--	--	--	--
Cash receipts (\$ bil.)	197	193	--	47	60	46	41	47	58	--
Livestock	95	95	--	24	25	24	23	24	25	--
Crops	102	98	--	23	35	23	19	23	33	--
Market basket (1982-84=100)										
Retail cost	163	--	--	163	165	--	--	--	--	--
Farm value	103	--	--	103	104	--	--	--	--	--
Spread	195	--	--	195	198	--	--	--	--	--
Farm value/retail cost (%)	22	--	--	22	22	--	--	--	--	--
Retail prices (1982-84=100)										
All food	161	164	--	161	162	164	164	164	--	--
At home	161	164	--	161	163	164	164	164	--	--
Away from home	161	165	--	162	163	164	165	166	--	--
Agricultural exports (\$ bil.) ¹	53.6	49.0	--	12.1	11.1	14.4	12.7	11.2	10.7	--
Agricultural imports (\$ bil.) ¹	37.0	38.0	--	9.4	8.7	9.2	9.4	9.4	10.0	--
Commercial production										
Red meat (mil. lb.)	45,134	44,808	42,947	11,380	11,702	11,384	11,207	11,256	10,961	10,612
Poultry (mil. lb.)	33,667	35,270	36,965	8,375	8,580	8,585	8,870	8,910	8,905	9,165
Eggs (mil. doz.)	6,659	6,832	6,980	1,658	1,712	1,692	1,685	1,705	1,750	1,735
Milk (bil. lb.)	157.4	162.4	165.8	38.5	38.9	40.5	42.1	39.9	39.8	41.8
Consumption, per capita										
Red meat and poultry (lb.)	214.5	217.8	216.2	54.0	56.6	54.2	54.6	54.0	55.0	53.6
Corn beginning stocks (mil. bu.) ²	883.2	1307.803	--	4,939.9	3,039.8	1,307.8	8,051.9	5,695.5	--	--
Corn use (mil. bu.) ²	8,791.0	9,310.0	--	1,903.7	1,734.0	3,021.0	2,362.1	--	--	--
Prices ³										
Choice steers--Neb. Direct (\$/cwt)	61.48	63-66	71-76	58.97	61.06	62.43	63-65	62-66	64-70	67-73
Barrows and gilts--IA, So. MN (\$/cwt)	34.72	36-38	40-43	36.61	22.06	28.83	36-38	41-43	39-43	38-42
Broilers--12-city (cents/lb.)	63.10	57-59	54-58	70.40	64.50	58.10	57-59	57-61	55-59	52-56
Eggs--NY gr. A large (cents/doz.)	75.80	69-72	65-70	76.00	81.70	75.00	59-61	68-72	75-81	67-73
Milk--all at plant (\$/cwt)	15.42	13.30-13.80	12.75-13.75	15.47	17.83	15.97	12.35-12.50	11.90-12.50	13.15-14.05	12.65-13.65
Wheat--KC HRW ordinary (\$/bu.)	3.29	--	--	2.86	3.34	3.16	--	--	--	--
Corn--Chicago (\$/bu.)	2.34	--	--	2.03	2.11	2.16	--	--	--	--
Soybeans--Chicago (\$/bu.)	6.01	--	--	5.53	5.44	4.95	--	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	67.02	--	--	72.60	64.15	56.61	--	--	--	--
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Farm real estate values ⁴										
Nominal (\$ per acre)	683	703	713	740	798	844	887	926	974	992
Real (1982 \$)	528	521	507	514	540	558	572	586	604	609
U.S. civilian employment (mil.) ⁵	125.8	126.3	128.1	129.2	131.1	132.3	133.9	136.3	--	--
Food and fiber (mil.)	24.9	24.4	23.7	24.0	24.5	24.8	24.7	24.3	--	--
Farm sector (mil.)	2.0	2.0	1.9	1.8	1.9	1.9	1.9	1.8	--	--
U.S. gross domestic product (\$ bil.)	5,743.8	5,916.7	6,244.4	6,558.1	6,947.0	7,269.6	7,661.6	8,110.9	--	--
Food and fiber--net value added (\$ bil.)	891.7	903.2	937.3	956.7	1,006.1	1,025.8	1,055.8	1,078.1	--	--
Farm sector--net value added (\$ bil.) ⁶	60.6	56.5	61.7	52.8	57.0	53.9	66.1	60.6	--	--

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

U.S. & Foreign Economic Data

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

	1997					1998				1999
	1996	1997	1998	III	IV	I	II	III	IV	I
<i>Billions of current dollars (quarterly data seasonally adjusted at annual rates)</i>										
Gross Domestic Product	7,636.0	8,110.9	8,511.0	8,170.8	8,254.5	8,384.2	8,440.6	8,537.9	8,681.2	8,807.9
Gross National Product	7,674.0	8,102.9	8,490.5	8,162.0	8,234.9	8,369.4	8,421.8	8,510.9	8,660.0	--
Personal consumption expenditures	5,207.6	5,493.7	5,807.9	5,540.3	5,593.2	5,676.5	5,773.7	5,846.7	5,934.8	6,047.1
Durable goods	634.5	673.0	724.7	681.2	682.2	705.1	720.1	718.9	754.5	768.8
Nondurable goods	1,534.7	1,600.6	1,662.4	1,611.3	1,613.2	1,633.1	1,655.2	1,670.0	1,691.3	1,734.9
Food	756.1	780.9	815.3	785.3	787.1	796.9	810.2	818.7	835.6	841.8
Clothing and shoes	264.3	278.0	293.8	280.9	280.7	291.0	295.3	293.7	295.1	308.7
Services	3,038.4	3,220.1	3,420.8	3,247.9	3,297.8	3,338.2	3,398.4	3,457.7	3,488.9	3,543.5
Gross private domestic investment	1,116.5	1,256.0	1,367.1	1,265.7	1,292.0	1,366.6	1,345.0	1,364.4	1,392.4	1,421.3
Fixed investment	1,090.7	1,188.6	1,307.8	1,211.1	1,220.1	1,271.1	1,305.8	1,307.5	1,346.7	1,375.1
Change in business inventories	25.9	67.4	59.3	54.6	71.9	95.5	39.2	57.0	45.7	46.2
Net exports of goods and services	-94.8	-93.4	-151.2	-94.7	-98.8	-123.7	-159.3	-165.5	-156.2	-198.6
Government consumption expenditures and gross investment	1,406.7	1,454.6	1,487.1	1,459.5	1,468.1	1,464.9	1,481.2	1,492.3	1,510.2	1,538.1
<i>Billions of 1992 dollars (quarterly data seasonally adjusted at annual rates) ¹</i>										
Gross Domestic Product	6,928.4	7,269.8	7,551.9	7,311.2	7,364.6	7,464.7	7,498.6	7,566.5	7,677.7	7,762.5
Gross National Product	7,008.4	7,266.2	7,537.8	7,307.0	7,350.7	7,455.2	7,485.9	7,546.7	7,663.3	--
Personal consumption expenditures	4,714.1	4,913.5	5,153.3	4,947.0	4,981.0	5,055.1	5,130.2	5,181.8	5,246.0	5,331.9
Durable goods	611.1	668.6	737.1	679.6	684.8	710.3	729.4	733.7	775.0	796.4
Nondurable goods	1,432.3	1,486.3	1,544.1	1,495.7	1,494.3	1,521.2	1,540.9	1,549.1	1,565.1	1,599.9
Food	689.7	699.3	718.0	700.6	699.9	706.8	716.3	718.9	730.1	732.2
Clothing and shoes	267.7	288.4	310.3	291.9	292.3	307.4	311.4	309.8	312.5	333.7
Services	2,671.0	2,761.5	2,879.5	2,775.4	2,804.8	2,829.3	2,866.8	2,904.8	2,917.2	2,949.7
Gross private domestic investment	1,069.1	1,206.4	1,330.1	1,215.8	1,241.9	1,321.8	1,306.5	1,331.6	1,360.6	1,393.3
Fixed investment	1,041.7	1,138.0	1,267.8	1,159.3	1,169.5	1,224.9	1,264.1	1,270.9	1,311.0	1,342.4
Change in business inventories	25.0	63.2	57.4	51.0	66.5	91.4	38.2	55.7	44.2	45.2
Net exports of goods and services	-114.4	-136.1	-238.2	-142.4	-149.0	-198.5	-245.2	-259.0	-250.0	-305.6
Government consumption expenditures and gross investment	1,257.9	1,285.0	1,296.9	1,288.9	1,289.2	1,283.0	1,294.8	1,299.6	1,310.3	1,324.6
GDP implicit price deflator (% change)	1.9	1.9	1.0	1.2	1.2	0.8	0.9	1.0	0.8	1.4
Disposable personal income (\$ bil.)	5,534.7	5,795.1	6,027.9	5,821.8	5,879.4	5,937.1	5,988.9	6,052.4	6,133.1	6,217.3
Disposable pers. income (1992 \$ bil.)	5,043.0	5,183.1	5,348.5	5,198.4	5,235.8	5,287.1	5,321.5	5,364.1	5,421.2	5,481.9
Per capita disposable pers. income (\$)	20,840	21,633	22,304	21,709	21,871	22,046	22,192	22,373	22,604	22,855
Per capita disp. pers. income (1992 \$)	18,989	19,349	19,790	19,385	19,478	19,632	19,719	19,829	19,980	20,152
U.S. resident population plus Armed Forces overseas (mil.) ²	265.5	267.9	270.3	268.1	268.9	269.3	269.9	270.5	271.2	--
Civilian population (mil.) ²	263.9	266.4	268.8	266.6	267.3	267.8	268.4	269.0	269.7	--
<i>Annual</i>										
<i>1998</i>										
<i>1999</i>										
<i>Monthly data seasonally adjusted</i>										
Total industrial production (1992=100)	121.4	129.7	135.1	134.1	136.1	136.4	136.7	136.5	137.0	137.0
Leading economic indicators (1992=100)	102.1	103.9	105.5	105.4	105.7	106.2	106.4	106.9	107.2	107.3
Civilian employment (mil. persons) ³	126.7	129.6	131.5	130.9	131.9	132.1	132.5	133.4	133.1	133.0
Civilian unemployment rate (%) ³	4.5	4.9	4.5	4.7	4.5	4.4	4.3	4.3	4.4	4.2
Personal income (\$ bil. annual rate)	6,425.2	6,784.0	7,126.1	7,033.9	7,217.2	7,279.8	7,276.8	7,321.9	7,356.7	7,382.6
Money stock-M2 (daily av.) (\$ bil.) ⁴	3,823.9	4,046.6	4,401.9	4,126.2	4,326.9	4,365.3	4,402.1	4,426.1	4,447.0	4,457.2
Three-month Treasury bill rate (%)	5.02	5.07	4.81	5.03	4.08	4.44	4.42	4.34	4.45	4.48
AAA corporate bond yield (Moody's) (%)	7.37	7.26	6.53	6.71	6.37	6.41	6.22	6.24	6.40	6.62
Total housing starts (1,000) ⁵	1,476.8	1,474.0	1,616.9	1,583	1,698	1,654	1,750	1,820	1,790	1,766
Business inventory/sales ratio ⁶	1.40	1.38	1.38	1.38	1.39	1.38	1.37	1.37	1.36	--
Sales of all retail stores (\$ bil.) ⁷	2,465.1	2,546.3	2,696.5	220.2	227.9	229.5	232.0	235.0	239.0	239.2
Nondurable goods stores (\$ bil.)	1,457.8	1,505.4	1,563.8	128.1	131.9	132.7	133.4	135.1	136.5	137.3
Food stores (\$bil.)	424.2	432.1	443.0	36.3	37.4	37.5	37.8	37.8	38.3	38.3
Apparel and accessory stores (\$ bil.)	113.0	116.8	124.2	10.3	10.3	10.4	10.4	10.9	10.9	10.9
Eating and drinking places (\$ bil.)	238.4	244.1	247.1	20.2	21.1	21.3	21.4	21.3	21.6	21.5

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

Table 3—World Economic Growth

	Calendar year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<i>Real GDP, annual percent change</i>										
World	1.9	1.9	1.6	3.2	2.8	3.6	3.5	2.0	2.1	2.4
less U.S.	3.0	1.6	1.3	3.1	2.9	3.7	3.3	1.3	1.5	2.9
Developed Economies	1.7	1.6	0.8	2.8	2.2	3.1	2.9	2.0	2.1	1.8
less U.S.	3.2	1.0	0.0	2.4	2.1	2.9	2.4	1.0	1.1	2.1
United States	-0.9	2.7	2.3	3.5	2.3	3.4	3.9	3.9	3.8	1.3
Canada	-1.9	0.9	2.3	4.7	2.6	1.2	3.8	3.0	2.8	3.4
Japan	3.8	1.0	0.3	0.7	1.4	5.2	1.4	-2.9	-0.7	1.0
Australia	-1.1	2.3	3.8	5.4	3.8	3.9	3.7	4.9	3.1	3.1
European Union	3.7	1.0	-0.6	3.0	2.3	1.8	2.7	2.7	1.8	2.5
Transition Economies	-6.9	-11.2	-6.5	-8.8	-1.5	-2.2	1.0	-2.4	-4.7	-0.6
Eastern Europe	-10.6	-4.0	0.8	3.5	5.5	3.1	1.7	1.9	1.2	3.0
Poland	-6.3	2.0	3.8	4.2	7.1	5.9	6.9	4.9	2.7	4.0
Former Soviet Union	-5.5	-13.7	-9.3	-13.9	-5.1	-5.1	0.6	-5.1	-8.6	-3.3
Russia	-5.0	-14.5	-8.7	-12.6	-4.1	-4.9	0.8	-5.6	-9.3	-4.0
Developing Economies	4.9	6.3	6.3	6.7	5.7	6.3	5.8	2.3	3.0	4.8
Asia	6.6	8.8	8.7	9.4	8.7	7.9	6.7	2.5	4.7	5.8
East Asia	8.7	10.8	10.6	10.7	9.3	8.4	7.7	4.5	6.2	6.6
China	9.3	14.2	13.5	12.6	10.5	9.6	8.8	7.8	7.7	7.6
Taiwan	7.5	6.8	6.3	6.5	6.0	5.7	6.8	4.8	3.7	4.7
Korea	9.2	5.1	5.8	8.6	9.0	7.1	5.0	-5.9	3.0	4.8
Southeast Asia	6.8	6.9	7.4	8.1	8.5	7.5	4.9	-6.2	0.1	3.5
Indonesia	8.9	7.2	7.2	7.5	8.2	8.0	4.7	-13.5	-3.3	2.6
Malaysia	8.8	7.8	8.4	9.4	9.5	8.0	7.8	-7.2	1.2	3.6
Philippines	-0.2	0.3	2.1	4.4	4.8	5.7	5.1	-0.4	-0.4	2.8
Thailand	8.0	8.1	8.3	8.8	9.2	6.4	-0.4	-7.3	1.5	4.1
South Asia	1.3	5.3	4.7	7.0	6.9	6.8	5.5	4.4	4.1	4.9
India	0.5	5.4	4.9	7.5	7.3	7.5	5.8	4.6	4.5	5.2
Pakistan	6.7	4.8	2.9	4.5	4.9	2.1	2.4	3.4	1.5	2.5
Latin America	3.8	3.0	3.9	5.0	0.1	3.4	5.4	2.2	-1.5	3.0
Mexico	4.2	3.6	2.0	4.4	-6.2	5.1	7.0	4.6	2.4	2.9
Caribbean/Central	4.2	7.9	4.9	3.8	3.1	3.3	0.7	4.0	3.1	2.3
South America	3.6	2.7	4.5	5.3	1.8	3.0	5.1	1.5	-2.8	3.0
Argentina	8.9	8.6	6.0	7.4	-4.6	4.4	8.6	4.3	-1.8	3.2
Brazil	0.5	-1.2	4.5	5.8	3.0	2.9	3.5	0.2	-5.0	2.4
Colombia	2.3	4.0	5.5	5.9	5.3	2.0	3.0	2.3	1.3	3.5
Venezuela	9.7	6.1	0.3	-2.9	3.4	-1.6	6.4	-0.7	-2.0	4.0
Middle East	2.9	5.5	3.5	0.3	3.5	4.5	3.9	0.9	1.5	3.5
Israel	7.7	5.6	5.6	6.9	7.0	4.6	2.3	1.5	1.8	2.8
Saudi Arabia	8.4	2.8	-0.6	0.5	0.5	2.4	0.9	-1.0	1.0	2.0
Turkey	0.9	6.0	8.0	-5.5	7.0	7.0	7.6	2.9	1.5	5.5
Africa	0.7	1.2	1.3	2.7	2.8	4.7	2.7	2.8	3.2	3.8
North Africa	1.0	2.2	0.1	2.8	2.4	5.6	2.4	4.9	4.3	4.1
Egypt	1.1	4.4	2.9	3.9	4.6	5.0	5.0	5.0	4.7	4.4
Sub-Sahara	0.5	0.3	2.5	2.6	3.2	4.0	3.0	0.8	2.0	3.5
South Africa	-1.0	-2.6	1.5	2.8	3.1	3.3	0.4	-2.1	1.1	3.0
<i>Consumer Prices, annual percent change</i>										
Developed Economies	4.7	3.5	3.1	2.6	2.5	2.4	2.1	1.6	1.4	1.7
Transition Economies	94.1	646.4	602.0	266.9	126.9	40.6	28.2	20.8	40.9	12.4
Developing Economies	36.5	38.9	47.2	51.8	22.2	14.3	9.4	10.4	8.8	7.5
Asia	8.3	7.6	10.7	15.9	12.8	8.3	4.8	8.0	4.7	4.5
Latin America	128.6	151.0	209.0	208.9	35.9	20.8	13.9	10.5	14.6	9.9
Middle East	27.5	25.5	24.7	31.9	36.0	24.7	23.1	23.8	19.7	19.4
Africa	24.6	32.5	30.6	37.2	33.2	25.9	11.1	8.6	8.6	6.6

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

Information contact: Andy Jerardo (202) 694-5323

Farm Prices

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

	Annual			1998			1999			
	1996	1997	1998	Apr	Nov	Dec	Jan	Feb	Mar	Apr
<i>1990-92=100</i>										
Prices received										
All farm products	112	107	101	104	100	99	97	96	97	98
All crops	127	116	107	114	102	100	98	99	99	106
Food grains	157	128	103	114	105	101	101	101	98	98
Feed grains and hay	146	117	100	109	86	89	91	91	92	89
Cotton	122	112	107	105	107	100	96	92	91	92
Tobacco	105	104	104	97	109	110	111	112	113	94
Oil-bearing crops	128	131	107	112	101	102	96	88	83	83
Fruit and nuts, all	118	108	114	101	119	99	100	101	105	116
Commercial vegetables	111	122	120	147	111	110	107	115	116	144
Potatoes and dry beans	114	90	98	108	89	93	94	96	98	109
Livestock and products	99	98	96	95	97	97	96	94	95	90
Meat animals	87	92	79	84	72	66	75	77	79	80
Dairy products	114	102	118	107	137	138	133	119	115	100
Poultry and eggs	120	113	117	109	124	120	114	109	109	104
Prices paid										
Commodities and services, interest, taxes, and wage rates (PPITW)	114	117	115	118	114	113	115	115	116	116
Production items	114	117	112	116	110	110	111	111	113	113
Feed	129	123	105	114	96	96	97	96	101	101
Livestock and poultry	75	94	88	94	86	85	90	94	92	92
Seeds	115	119	122	123	123	123	123	123	123	121
Fertilizer	125	121	112	114	108	107	107	107	108	107
Agricultural chemicals	119	120	122	122	122	122	118	118	121	121
Fuels	102	108	87	89	83	72	74	71	87	88
Supplies and repairs	115	118	119	119	120	120	120	120	121	120
Autos and trucks	118	119	119	119	119	119	120	119	119	119
Farm machinery	125	129	132	132	133	133	133	133	134	135
Building material	115	118	118	118	118	118	118	118	119	119
Farm services	116	117	116	116	116	116	116	116	116	116
Rent	119	121	124	134	124	124	130	130	130	130
Int. payable per acre on farm real estate debt	105	107	108	109	108	108	111	111	110	110
Taxes payable per acre on farm real estate	112	115	119	119	119	119	122	122	120	120
Wage rates (seasonally adjusted)	117	123	129	129	131	131	136	136	136	136
Prod. items, interest, taxes & wage rates (PITW)	114	117	114	117	112	112	114	114	115	115
Ratio, prices received to prices paid (%)*	98	91	88	88	88	88	84	83	84	84
Prices received (1910-14=100)	712	679	643	658	633	626	617	612	614	621
Prices paid, etc. (parity index) (1910-14=100)	1,520	1,558	1,532	1,565	1,516	1,511	1,534	1,534	1,549	1,549
Parity ratio (1910-14=100) (%)*	47	44	42	42	42	41	40	40	40	40

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

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

	Annual ¹			1998			1999			
	1995	1996	1997	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Crops										
All wheat (\$/bu.)	4.55	4.30	3.45	3.18	2.97	2.87	2.80	2.74	2.65	2.71
Rice, rough (\$/cwt)	9.15	9.96	9.64	9.40	8.98	9.06	9.05	8.97	8.86	8.33
Corn (\$/bu.)	3.24	2.71	2.60	2.41	1.93	2.01	2.06	2.05	2.06	1.97
Sorghum (\$/cwt)	5.69	4.17	4.00	3.77	3.05	2.98	3.05	3.16	3.17	3.01
All hay, baled (\$/ton)	82.20	95.80	102.50	98.00	81.40	78.40	78.80	79.00	78.50	81.90
Soybeans (\$/bu.)	6.72	7.35	6.50	6.26	5.40	5.37	5.32	4.80	4.61	4.59
Cotton, upland (¢/lb.)	75.40	69.30	66.90	63.60	65.10	60.70	58.30	56.00	55.30	55.70
Potatoes (\$/cwt)	6.77	4.93	5.68	6.27	4.81	5.20	5.32	5.61	5.81	6.47
Lettuce (\$/cwt) ²	23.50	14.70	17.30	24.60	9.82	11.90	10.30	15.40	14.50	26.70
Tomatoes, fresh (\$/cwt) ²	25.80	28.00	33.00	37.20	42.90	45.00	39.90	35.20	24.80	24.10
Onions (\$/cwt)	11.10	10.60	12.60	17.80	13.90	16.00	16.70	13.80	11.20	18.30
Beans, dry edible (\$/cwt)	20.80	23.50	17.70	20.80	20.80	20.50	19.80	18.40	17.20	18.80
Apples for fresh use (¢/lb.)	24.00	20.80	22.20	19.40	17.90	15.20	15.90	15.00	15.70	14.70
Pears for fresh use (\$/ton)	272.00	376.00	276.00	332.00	398.00	354.00	373.00	362.00	331.00	337.00
Oranges, all uses (\$/box) ³	4.23	5.01	4.57	5.79	5.87	4.74	5.15	5.60	6.02	5.82
Grapefruit, all uses (\$/box) ³	2.30	2.43	1.74	0.40	3.19	2.70	1.80	1.60	1.67	2.23
Livestock										
Cattle, all beef (\$/cwt)	61.80	58.70	63.10	63.00	58.10	56.80	59.00	60.60	62.40	62.10
Calves (\$/cwt)	73.10	58.40	78.90	90.80	77.50	80.20	83.20	86.90	87.30	88.40
Hogs, all (\$/cwt)	40.50	51.90	52.90	35.60	18.70	14.70	26.30	27.60	27.80	30.50
Lambs (\$/cwt)	78.20	88.20	90.30	66.00	62.20	64.50	68.20	67.20	67.40	--
All milk, sold to plants (\$/cwt)	12.78	14.75	13.36	14.00	17.90	18.00	17.40	15.50	15.00	13.00
Milk, manuf. grade (\$/cwt)	11.79	13.43	12.17	14.00	17.30	17.40	15.30	12.30	15.10	13.00
Broilers, live (¢/lb.)	34.40	38.10	37.70	36.40	41.50	39.00	37.90	36.60	35.80	34.30
Eggs, all (¢/doz.) ⁴	62.40	74.90	70.20	63.70	72.80	75.80	71.90	65.20	67.90	59.60
Turkeys (¢/lb.)	41.00	43.30	39.90	35.70	44.00	41.10	34.80	35.70	37.00	38.70

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

Producer & Consumer Prices

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

	Annual			1998			1999			
	1996	1997	1998	Apr	Nov	Dec	Jan	Feb	Mar	Apr
<i>1982-84=100</i>										
Consumer Price Index, all items	156.9	160.5	163.0	162.5	164.0	163.9	164.3	164.5	165.0	166.2
CPI, all items less food	157.5	161.1	163.6	163.0	164.3	164.2	164.5	164.7	165.3	166.7
All food	153.3	157.3	160.7	159.8	162.1	162.3	163.6	163.3	163.3	163.4
Food away from home	152.7	157.0	161.1	160.2	162.6	163.0	163.5	163.8	164.2	164.5
Food at home	154.3	158.1	161.1	160.2	162.5	162.6	164.3	163.8	163.4	163.5
Meats ¹	140.2	144.4	141.6	140.8	141.4	140.2	139.4	140.6	140.3	140.5
Beef and veal	134.5	136.8	136.5	136.5	137.0	137.1	136.0	137.3	137.0	137.9
Pork	148.2	155.9	148.5	145.9	146.2	144.1	141.9	143.5	143.1	141.8
Poultry	152.4	156.6	157.1	154.3	159.6	159.3	158.5	157.4	158.3	157.6
Fish and seafood	173.1	177.1	181.7	181.0	183.1	183.7	183.6	184.3	183.5	185.3
Eggs	142.1	140.0	135.4	139.1	139.4	142.9	137.8	138.2	134.2	129.6
Dairy and related products ²	142.1	145.5	150.8	148.5	155.9	157.6	161.2	162.3	161.5	156.1
Fats and oils ³	140.5	141.7	146.9	140.7	155.1	151.9	150.5	150.9	149.4	149.0
Fresh fruits	234.4	236.3	246.5	241.6	249.6	258.7	267.4	257.8	257.4	271.9
Fresh vegetables	189.2	194.6	215.8	219.7	214.9	212.3	224.5	209.8	209.2	206.2
Potatoes	180.6	174.2	185.2	179.9	176.7	178.0	184.5	184.0	185.9	183.3
Cereals and bakery products	174.0	177.6	181.1	180.2	182.1	182.3	184.2	183.8	183.5	184.8
Sugar and sweets	143.7	147.8	150.2	150.1	149.6	150.1	151.7	151.3	151.0	151.7
Nonalcoholic beverages ⁴	128.6	133.4	133.0	133.9	132.7	131.7	133.5	134.5	134.5	134.3
Apparel										
Footwear	126.6	127.6	128.0	127.9	130.4	127.5	125.6	124.8	126.4	129.2
Tobacco and smoking products	232.8	243.7	274.8	263.5	281.3	331.2	354.2	348.7	335.9	349.9
Alcoholic beverages	158.5	162.8	165.7	165.2	166.8	167.2	167.6	168.6	168.4	168.8

1. Beef, veal, lamb, pork, and processed meat. 2. Included butter through Dec. '97. 3. Includes butter as of Jan. '98. 4. Includes fruit juices as of Jan. '98.

This table is compiled with data provided by the Bureau of Labor Statistics (BLS). BLS operates a website at <http://stats.bls.gov/bls/home.html> and a Consumer Prices Information Hotline at (202) 606-7828.

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

	Annual			1998			1999			
	1996	1997	1998	Apr	Nov	Dec	Jan	Feb	Mar	Apr
<i>1982=100</i>										
All commodities	127.7	127.6	124.4	124.9	123.6	122.8	123.2	122.4	122.8	123.5
Finished goods ¹	131.3	131.8	130.6	130.4	130.9	131.1	131.5	130.9	131.2	131.8
All foods ²	132.5	132.8	132.4	132.0	133.3	132.5	133.6	131.5	132.1	130.0
Consumer foods	133.6	134.5	134.3	133.8	134.9	134.5	135.6	133.9	134.6	133.2
Fresh fruits and melons	100.8	99.4	90.0	90.3	87.4	88.3	103.6	106.3	100.5	101.4
Fresh and dry vegetables	135.0	123.1	139.5	167.8	124.5	137.9	124.4	95.2	114.4	132.5
Dried and dehydrated fruits	124.2	124.9	124.4	122.5	122.3	121.8	122.6	122.6	122.6	122.6
Canned fruits and juices	137.5	137.6	134.4	134.1	134.8	136.9	136.7	136.4	137.8	137.9
Frozen fruits, juices and ades	123.9	117.2	116.1	112.2	123.7	125.1	121.8	123.4	124.4	124.1
Fresh veg. except potatoes	120.9	121.3	137.9	162.9	131.2	148.1	131.9	93.1	117.4	144.4
Canned vegetables and juices	121.2	120.1	121.5	121.8	120.0	120.0	120.8	121.0	120.8	120.9
Frozen vegetables	125.4	125.8	125.4	125.7	125.5	125.2	125.6	126.2	125.5	126.7
Potatoes	133.9	106.1	122.5	125.5	120.7	120.7	132.3	124.8	121.7	106.4
Eggs for fresh use (1991=100)	105.1	97.1	90.1	83.6	100.2	102.9	94.0	83.5	89.5	74.8
Bakery products	169.8	173.9	175.8	175.7	176.4	176.7	177.4	178.1	177.3	177.6
Meats	109.0	111.6	101.4	101.2	97.2	95.5	100.0	98.3	100.1	99.4
Beef and veal	100.2	102.8	99.5	99.2	99.7	98.8	101.4	99.9	102.7	102.2
Pork	120.9	123.1	96.6	96.1	84.0	80.2	90.6	86.1	87.6	86.0
Processed poultry	119.8	117.4	120.7	117.2	123.4	118.3	114.9	113.0	113.6	111.4
Unprocessed and packaged fish	165.9	178.1	183.0	185.8	186.3	175.6	184.7	186.9	204.6	184.9
Dairy products	130.4	128.1	138.1	131.4	148.5	148.4	149.0	145.1	142.6	132.1
Processed fruits and vegetables	127.6	126.4	125.8	125.3	126.3	127.2	126.8	127.2	127.5	128.1
Shortening and cooking oil	138.5	137.8	143.4	142.6	151.5	149.5	--	--	--	--
Soft drinks	134.0	133.2	134.8	135.3	134.9	134.8	135.4	136.5	137.2	137.6
Finished consumer goods less foods	127.6	128.2	126.4	126.0	126.4	127.1	127.5	127.0	127.3	129.1
Alcoholic beverages	132.8	135.1	135.2	135.0	136.3	136.5	136.8	137.0	137.1	137.2
Apparel	125.1	125.7	126.6	126.5	126.9	127.0	126.8	126.8	126.3	126.3
Footwear	141.6	143.7	144.7	144.7	144.7	144.9	145.2	145.9	145.6	144.6
Tobacco products	237.4	248.9	283.4	271.0	288.8	364.1	363.0	363.0	363.5	363.4
Intermediate materials ³	125.8	125.6	123.0	123.3	121.8	120.9	121.2	120.5	120.8	121.6
Materials for food manufacturing	125.3	123.2	123.1	121.7	125.5	124.0	124.6	122.4	121.1	117.8
Flour	136.8	118.7	109.2	112.7	110.4	107.3	106.8	106.2	104.6	103.0
Refined sugar ⁴	123.7	123.6	119.8	119.5	120.3	120.3	118.5	120.2	122.6	122.6
Crude vegetable oils	118.1	116.6	131.1	138.9	130.9	122.0	123.7	112.0	95.1	98.0
Crude materials ⁵	113.8	111.1	96.7	100.3	93.6	89.8	90.9	87.9	89.5	90.4
Foodstuffs and feedstuffs	121.5	112.2	103.8	105.8	102.4	97.0	101.6	98.8	98.9	95.8
Fruits and vegetables and nuts ⁶	122.5	115.5	117.2	128.4	110.8	116.5	120.6	110.6	114.8	122.5
Grains	151.1	111.2	93.4	99.8	88.5	87.1	87.0	86.4	84.9	83.1
Slaughter livestock	95.2	96.3	82.3	87.9	74.9	67.3	79.3	81.0	83.6	83.8
Slaughter poultry, live	140.5	131.0	141.4	128.5	151.4	136.2	129.5	126.4	124.8	118.7
Plant and animal fibers	129.4	117.0	110.4	101.5	110.9	97.7	93.5	90.8	96.3	94.4
Fluid milk	107.9	97.5	112.6	101.4	130.5	132.4	130.4	117.2	110.2	96.2
Oilseeds	139.4	140.8	114.4	118.1	108.8	105.5	103.2	93.0	91.3	93.5
Leaf tobacco	89.4	--	104.6	99.6	112.0	112.3	112.4	112.6	114.6	95.8
Raw cane sugar	118.6	116.8	117.2	117.5	116.4	117.6	119.0	118.7	118.4	119.6

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

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

Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual			1998			1999			
	1996	1997	1998	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Market basket¹										
Retail cost (1982-84=100)	155.9	159.7	163.1	161.8	164.7	165.6	167.7	166.7	166.3	166.4
Farm value (1982-84=100)	111.1	106.2	103.3	103.4	104.2	101.4	101.1	100.6	99.9	97.4
Farm-retail spread (1982-84=100)	180.1	188.6	195.4	193.2	197.3	200.2	203.6	202.3	202.0	203.6
Farm value-retail cost (%)	24.9	23.3	22.2	22.4	22.2	21.4	21.1	21.1	21.0	20.5
Meat products										
Retail cost (1982-84=100)	140.1	144.4	141.6	140.8	141.4	140.2	139.4	140.6	140.3	140.5
Farm value (1982-84=100)	100.4	101.2	84.8	86.9	76.9	70.7	72.0	73.4	77.4	83.8
Farm-retail spread (1982-84=100)	180.9	188.6	200.0	196.1	207.6	211.5	208.6	209.5	204.8	198.7
Farm value-retail cost (%)	36.3	35.5	30.3	31.3	27.6	25.5	26.1	26.4	28.0	30.2
Dairy products										
Retail cost (1982-84=100)	142.1	145.5	150.8	148.5	155.9	157.6	161.2	162.3	161.5	156.1
Farm value (1982-84=100)	107.2	98.0	113.0	106.1	125.6	127.1	123.8	126.9	116.7	95.3
Farm-retail spread (1982-84=100)	174.3	189.3	185.6	187.6	183.8	185.7	195.7	194.9	202.8	212.2
Farm value-retail cost (%)	36.2	32.3	36.0	34.3	38.7	38.7	36.8	37.5	34.7	29.3
Poultry										
Retail cost (1982-84=100)	152.4	156.6	157.1	154.3	159.6	159.3	158.5	157.4	158.3	157.6
Farm value (1982-84=100)	126.2	120.6	126.1	116.2	133.8	125.6	119.6	116.5	114.9	111.7
Farm-retail spread (1982-84=100)	182.6	198.1	192.9	198.1	189.3	198.1	203.3	204.5	208.2	210.5
Farm value-retail cost (%)	44.3	41.2	42.9	40.3	44.9	42.2	40.4	39.6	38.9	37.9
Eggs										
Retail cost (1982-84=100)	142.1	140.0	137.1	139.1	139.4	142.9	137.8	138.2	134.2	129.6
Farm value (1982-84=100)	114.7	99.3	89.6	85.2	104.9	108.1	100.0	86.1	91.3	74.2
Farm-retail spread (1982-84=100)	191.4	213.0	222.5	235.9	201.5	205.4	205.6	231.8	211.3	229.1
Farm value-retail cost (%)	51.9	45.6	42.0	39.4	48.3	48.6	46.6	40.0	43.7	36.8
Cereal and bakery products										
Retail cost (1982-84=100)	174.0	177.6	181.1	180.2	182.1	182.3	184.2	183.8	183.5	184.8
Farm value (1982-84=100)	125.6	107.7	94.4	99.2	95.6	95.0	92.4	89.0	86.8	86.5
Farm-retail spread (1982-84=100)	180.7	187.4	193.2	191.5	194.2	194.5	197.0	197.0	197.0	198.5
Farm value-retail cost (%)	7.2	7.4	6.4	6.7	6.4	6.4	6.1	5.9	5.8	5.7
Fresh fruit										
Retail cost (1982-84=100)	243.0	245.1	258.2	249.9	262.7	283.5	295.3	283.0	282.9	301.7
Farm value (1982-84=100)	151.7	137.0	141.3	140.4	140.6	138.5	157.5	155.9	155.5	155.3
Farm-retail spread (1982-84=100)	285.2	295.0	312.2	300.5	319.1	350.4	358.9	341.7	341.7	369.3
Farm value-retail cost (%)	19.7	17.7	17.3	17.7	16.9	15.4	16.8	17.4	17.4	16.3
Fresh vegetables										
Retail cost (1982-84=100)	189.2	194.6	215.8	219.7	214.9	212.3	224.5	209.8	209.2	206.2
Farm value (1982-84=100)	113.3	118.7	124.5	147.8	123.1	120.6	124.5	121.5	122.9	133.8
Farm-retail spread (1982-84=100)	228.3	233.6	262.7	256.6	262.1	259.4	275.9	255.2	253.6	243.4
Farm value-retail cost (%)	20.3	20.7	19.6	22.8	19.5	19.3	18.8	19.7	19.9	22.0
Processed fruits and vegetables										
Retail cost (1982-84=100)	144.4	147.9	150.6	148.8	150.7	150.4	153.4	153.8	153.5	153.3
Farm value (1982-84=100)	121.5	115.9	115.1	117.2	115.6	116	114.3	113.6	113.6	113.6
Farm-retail spread (1982-84=100)	151.6	157.9	161.7	158.6	161.7	161.1	165.6	166.3	165.9	165.7
Farm value-retail cost (%)	20.0	18.6	18.2	18.7	18.2	18.3	17.7	17.6	17.6	17.6
Fats and oils										
Retail cost (1982-84=100)	140.5	141.7	146.9	140.7	155.1	151.9	150.5	150.9	149.4	149.0
Farm value (1982-84=100)	112.3	109.4	118.9	126.9	117.8	111.5	111.7	102.4	93.0	96.4
Farm-retail spread (1982-84=100)	150.9	153.6	157.2	145.8	168.8	166.8	164.8	168.7	170.1	168.4
Farm value-retail cost (%)	21.5	20.8	21.8	24.3	20.4	19.7	20.0	18.2	16.7	17.4

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			1998			1999			
	1996	1997	1998	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Beef, All Fresh Retail Price (cts/lb)	252.4	253.8	253.3	255.4	252.9	254.1	254.8	256.2	256.2	258.8
Beef, Choice										
Retail price (cents/lb.) ²	280.2	279.5	277.1	278.2	280.0	283.6	279.1	278.0	276.9	283.9
Wholesale value (cents) ³	158.1	158.2	153.8	151.6	158.1	150.4	156.3	153.7	160.3	166.1
Net farm value (cents) ⁴	134.9	137.2	130.8	136.4	131.5	125.5	130.1	132.8	139.9	141.1
Farm-retail spread (cents)	145.3	142.3	146.3	141.8	148.5	158.1	149.0	145.2	137.0	142.8
Wholesale-retail (cents) ⁵	122.1	121.3	123.3	126.6	121.9	133.2	122.8	124.3	116.6	117.8
Farm-wholesale (cents) ⁶	23.2	21.0	23.0	15.2	26.6	24.9	26.2	20.9	20.4	25.0
Farm value-retail price (%)	48	49	47	49	47	44	47	48	51	50
Pork										
Retail price (cents/lb.) ²	233.7	245.0	242.7	235.6	241.0	238.1	233.4	236.9	237.1	234.8
Wholesale value (cents) ³	123.2	123.1	97.3	96.2	84.6	81.1	95.6	91.0	89.2	95.0
Net farm value (cents) ⁴	99.4	95.3	61.2	66.5	35.0	29.3	50.7	52.6	50.2	56.4
Farm-retail spread (cents)	134.3	149.6	181.5	169.1	206.0	208.8	182.7	184.3	186.9	178.4
Wholesale-retail (cents) ⁵	110.5	121.9	145.4	139.4	156.4	157.0	137.8	145.9	147.9	139.8
Farm-wholesale (cents) ⁶	23.8	27.7	36.1	29.7	49.6	51.8	44.9	38.4	39	38.6
Farm value-retail price (%)	43	39	25	28	15	12	22	22	21	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 and distributing. 2. Weighted-average price of retail cuts from pork and Choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs and by-product values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of by-products. 5. Charges for retailing and other marketing services such as wholesaling and in-city transportation. 6. Charges for livestock marketing, processing, and transportation. *Information contact: Veronica Jones (202) 694-5387, Larry Duewer (202) 694-5172*

Note: Pork price and spread procedures have been revised (January 1999) and historical data made consistent with the updated series.

For the complete updated series call Larry Duewer.

Table 9—Price Indexes of Food Marketing Costs

	Annual			1997			1998			1999
	1996	1997	1998	II	III	I	II	III	IV	I
1987=100*										
Labor—hourly earnings and benefits	459.7	474.3	490.4	474.6	480.2	484.9	488.3	493.0	494.6	497.9
Processing	474.7	486.0	499.3	487.1	490.5	493.8	497.7	500.7	504.9	504.8
Wholesaling	516.0	536.2	552.5	538.9	545.4	546.8	552.5	555.4	555.1	556.1
Retailing	419.9	435.2	454.1	433.6	441.1	448.7	450.6	457.8	459.4	465.2
Packaging and containers	399.8	390.3	395.5	387.6	392.9	398.5	396.7	394.9	391.9	390.3
Paperboard boxes and containers	363.8	341.9	365.2	334.7	350.3	365.4	368.7	366.8	359.8	355.7
Metal cans	498.3	491.0	487.9	490.8	487.9	494.1	484.7	486.0	486.6	486.6
Paper bags and related products	437.8	441.9	432.9	439.5	442.5	438.8	434.0	430.2	428.5	425.6
Plastic films and bottles	326.5	326.6	322.8	326.9	327.5	326.7	325.0	321.0	318.5	319.7
Glass containers	460.5	447.4	446.8	446.6	446.6	446.9	446.9	446.1	447.3	447.8
Metal foil	235.7	233.4	232.0	237.2	236.4	231.8	232.6	232.6	230.9	228.2
Transportation services	429.8	430.0	428.3	429.0	429.4	429.9	431.8	426.3	425.0	403.9
Advertising	580.1	609.4	624.5	609.3	611.6	623.2	624.2	624.5	626.2	633.3
Fuel and power	670.7	668.5	619.7	658.1	669.0	625.1	622.9	629.2	601.6	586.6
Electric	501.3	499.2	492.1	517.7	491.5	482.2	489.3	511.8	485.0	479.0
Petroleum	666.8	616.7	457.0	574.8	609.6	495.5	470.0	439.2	423.3	388.4
Natural gas	1,136.7	1,214.0	1,239.4	1,179.7	1,249.4	1,229.4	1,242.1	1,268.5	1,217.7	1,206.3
Communications, water and sewage	296.8	302.8	307.6	303.5	304.2	305.5	308.0	308.5	308.5	309.3
Rent	268.2	265.6	260.5	265.1	265.1	262.5	260.4	260.4	258.8	257.5
Maintenance and repair	499.6	514.9	529.3	517.3	519.7	524.1	527.1	531.1	535.1	537.9
Business services	501.7	512.3	522.9	513.9	514.1	518.4	521.2	521.8	530.3	527.7
Supplies	338.3	337.8	332.3	337.5	337.9	335.6	332.4	331.4	329.5	325.2
Property taxes and insurance	564.3	580.1	598.3	582.2	587.3	591.1	595.4	600.7	606.1	609.6
Interest, short-term	103.9	108.9	103.7	108.8	110.1	106.5	106.7	105.6	96.0	93.2
Total marketing cost index	452.1	459.9	467.2	459.1	463.4	465.3	466.9	468.6	468.0	466.5

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 ¹	Imports	Total supply	Exports	Ending stocks	Consumption		Conversion factor ³	Primary market price ⁴
							Total	Per capita ²		
				Million lbs. ⁵				lbs.		\$/cwt
Beef										
1996	519	25,525	2,073	28,117	1,877	377	25,863	68	0.700	65.06
1997	377	25,490	2,343	28,210	2,136	465	25,609	67	0.700	66.32
1998	465	25,760	2,642	28,867	2,171	393	26,303	68	0.700	61.48
1999	393	25,628	2,705	28,726	2,435	370	25,921	67	0.700	63-66
2000	370	24,156	2,800	27,326	2,300	365	24,661	63	0.700	71-76
Pork										
1996	396	17,117	618	18,131	970	366	16,795	49	0.776	56.53
1997	366	17,274	633	18,273	1,044	408	16,821	49	0.776	54.30
1998	408	19,011	704	20,123	1,229	586	18,308	53	0.776	34.72
1999	586	18,870	700	20,156	1,250	475	18,431	52	0.776	36-38
2000	475	18,505	700	19,680	1,200	475	18,005	51	0.776	40-43
Veal⁶										
1996	7	378	0	385	0	7	378	1	0.83	59
1997	7	334	0	341	0	8	333	1	0.83	82
1998	8	262	0	270	0	5	265	1	0.83	82
1999	5	227	0	232	0	6	226	1	0.83	87
2000	6	222	0	228	0	5	223	1	0.83	92
Lamb and mutton										
1996	8	268	73	349	6	9	334	1	0.89	85
1997	9	260	83	352	5	14	333	1	0.89	88
1998	14	251	112	377	6	12	359	1	0.89	74
1999	12	232	115	359	6	11	342	1	0.89	70
2000	11	213	121	345	6	10	329	1	0.89	71
Total red meat										
1996	930	43,288	2,764	46,982	2,853	759	43,370	120	--	--
1997	759	43,358	3,059	47,176	3,185	895	43,096	118	--	--
1998	895	45,284	3,458	49,637	3,406	996	45,235	123	--	--
1999	996	44,957	3,520	49,473	3,691	862	44,920	121	--	--
2000	862	43,096	3,621	47,579	3,506	855	43,218	115	--	--
Broilers										
1996	560	26,124	4	26,688	4,420	641	21,626	71	0.869	61
1997	641	27,041	5	27,687	4,664	607	22,416	73	0.869	59
1998	607	27,612	5	28,225	4,673	711	22,841	73	0.869	63
1999	711	29,175	4	29,890	4,500	750	24,640	79	0.869	58
2000	750	30,709	4	31,463	4,575	800	26,088	82	0.869	56
Mature chickens										
1996	7	491	0	498	265	6	228	1	1.0	--
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	525	0	533	426	6	101	1	1.0	--
1999	6	548	0	554	375	5	174	1	1.0	--
2000	5	567	0	572	382	5	185	1	1.0	--
Turkeys										
1996	271	5,401	1	5,673	438	328	4,906	19	1.0	66
1997	328	5,412	1	5,741	606	415	4,720	18	1.0	65
1998	415	5,215	0	5,630	446	304	4,880	18	1.0	62
1999	304	5,212	1	5,517	400	250	4,866	18	1.0	65
2000	250	5,332	0	5,582	400	300	4,882	18	1.0	64
Total poultry										
1996	839	32,015	5	32,859	5,123	975	26,760	90	--	--
1997	975	32,964	6	33,944	5,654	1,029	27,261	91	--	--
1998	1,029	33,352	6	34,387	5,545	1,022	27,821	92	--	--
1999	1,022	34,935	5	35,962	5,275	1,005	29,681	97	--	--
2000	1,005	36,607	4	37,616	5,357	1,102	31,154	101	--	--
Red meat and poultry										
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	8,839	1,924	70,357	209	--	--
1998	1,924	78,636	3,464	84,024	8,950	2,018	73,057	215	--	--
1999	2,018	79,892	3,525	85,435	8,966	1,867	74,601	218	--	--
2000	1,867	79,703	3,625	85,195	8,863	1,960	74,373	216	--	--

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

Table 11—U.S. Egg Supply & Use

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption		Primary market price*
								Total	Per capita	
Million doz.								No.	¢/doz.	
1993	13.5	6,005.8	4.7	6,023.9	158.9	769.6	10.7	5,084.6	236.4	72.5
1994	10.7	6,177.6	3.7	6,192.0	187.6	805.4	14.9	5,184.1	238.7	67.3
1995	14.9	6,215.6	4.1	6,234.6	208.9	847.2	11.2	5,167.3	235.6	72.9
1996	11.2	6,350.7	5.4	6,367.3	253.1	863.8	8.5	5,241.8	236.8	88.2
1997	8.5	6,473.1	6.9	6,488.5	227.8	894.7	7.4	5,358.6	240.0	81.2
1998	7.4	6,658.7	5.8	6,672.0	218.8	921.8	8.4	5,523.0	245.2	75.8
1999	8.4	6,832.0	4.0	6,844.4	190.0	963.5	5.0	5,685.9	250.2	70.8
2000	5.0	6,980.0	4.0	6,989.0	200.0	1,010.0	5.0	5,774.0	252.0	67.5

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

Information contact: LaVerne Williams (202) 694-5190

Table 12—U.S. Milk Supply & Use¹

Commercial												CCC net removals	
Production	Farm use	Farm	Beg. stocks	Imports	Total commercial supply	CCC net removals	Commercial		All milk price ¹	Skim solids basis	Total solid basis ²		
		Market-ings					Ending stocks	Disap-pearance					
Billion lbs. (milkfat basis)										\$/cwt	Billion lbs.		
1992	150.9	1.9	149.0	4.5	2.5	155.9	9.9	4.7	141.3	13.09	2.0	5.2	
1993	150.6	1.8	148.8	4.7	2.8	156.3	6.6	4.5	145.1	12.80	3.9	5.0	
1994	153.6	1.7	151.9	4.5	2.9	159.3	4.8	4.3	150.3	12.97	3.7	4.2	
1995	155.3	1.6	153.7	4.3	2.9	160.9	2.1	4.1	154.9	12.74	4.4	3.5	
1996	154.0	1.5	153.5	4.1	2.9	159.5	0.1	4.7	154.7	14.74	0.7	0.5	
1997	156.1	1.4	154.7	4.7	2.7	162.1	1.1	4.9	156.1	13.34	3.7	2.7	
1998	157.4	1.4	156.1	4.9	4.5	165.5	0.4	5.3	159.9	15.42	4.0	2.6	
1999	162.4	1.3	161.1	5.3	3.2	169.6	0.5	5.0	164.1	13.55	4.9	3.1	
2000	165.8	1.2	164.6	5.0	3.5	173.1	0.8	5.0	167.2	13.25	1.9	1.5	

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

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

Table 13—Poultry & Eggs

	Annual			1998				1999		
	1996	1997	1998	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Broilers										
Federally inspected slaughter certified (mil. lb.)	26,336.3	27,270.7	27,862.7	2,332.6	2,496.9	2,192.4	2,395.3	2,425.1	2,253.5	2,567.2
Wholesale price, 12-city (cents/lb.)	61.2	58.8	63.1	58.1	68.0	64.1	60.4	59.3	58.2	56.8
Price of grower feed (\$/ton) ¹	175.5	156.3	128.6	144.0	113.0	115.0	116.0	117.0	109.0	107.0
Broiler-feed price ratio ²	4.4	4.7	6.3	4.9	7.8	7.2	6.7	6.5	6.7	6.7
Stocks beginning of period (mil. lb.)	560.1	641.3	606.8	660.2	598.0	614.0	657.8	711.1	709.4	714.8
Broiler-type chicks hatched (mil.)	8,078.2	8,321.6	8,495.1	730.3	693.2	678.0	737.8	735.3	661.7	755.2
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,465.6	5,477.9	5,280.6	440.9	474.3	461.6	431.1	410.9	362.4	429.7
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.5	64.9	62.2	55.5	71.5	73.0	69.0	57.7	58.8	61.7
Price of turkey grower feed (\$/ton) ¹	166.1	143.0	115.6	131.0	103.0	106.0	107.0	107.0	102.0	99.0
Turkey-feed price ratio ²	5.3	5.6	6.7	5.3	8.3	8.3	7.7	6.5	7.0	7.5
Stocks beginning of period (mil. lb.)	271.3	328.0	415.1	512.7	699.5	658.7	310.4	304.3	363.9	376.0
Poultz placed in U.S. (mil.)	327.2	321.5	297.8	26.4	22.7	22.2	25.0	24.4	23.6	26.2
Eggs										
Farm production (mil.)	76,532	77,677	79,905	6,869	6,791	6,723	7,029	6,971	6,282	7,052
Average number of layers (mil.)	299	304	313	314	315	319	321	322	323	323
Rate of lay (eggs per layer on farms)	256.2	255.3	255.4	21.9	21.6	21.1	21.9	21.6	19.5	21.8
Cartoned price, New York, grade A large (cents/doz.) ³	88.2	81.2	75.8	81.4	78.9	83.6	82.7	79.9	69.6	75.5
Price of laying feed (\$/ton) ¹	184.4	160.1	137.7	149.0	118.0	116.0	118.0	123.0	123.0	120.0
Egg-feed price ratio ²	8.5	8.8	9.8	9.4	11.3	12.6	12.8	11.7	10.6	11.3
Stocks, first of month										
Frozen (mil. doz.)	10.5	7.7	7.4	9.3	6.2	6.9	7.1	8.4	8.4	8.2
Replacement chicks hatched (mil.)	401.6	424.5	438.4	40.6	34.6	31.3	35.7	35.7	35.6	41.3

1. Calculated from price ratios that were revised February 1995. 2. Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight

(revised February 1995). 3. Price of cartoned eggs to volume buyers for delivery to retailers. Information contact: LaVerne Williams (202) 694-5190

Table 14—Dairy

	Annual			1998				1999		
	1996	1997	1998	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Milk--Basic Formula Price (\$/cwt) ¹	13.39	12.05	14.20	12.81	16.04	16.84	17.34	16.27	10.27	11.62
Wholesale prices										
Butter, Central States (cents/lb.) ²	108.2	116.2	177.6	134.1	242.3	187.9	140.8	144.4	133.1	130.3
Am. cheese, Wis. assembly pt. (cents/lb.)	149.1	132.4	158.1	138.8	183.5	188.7	192.4	162.3	131.5	134.0
Nonfat dry milk (cents/lb.) ³	122.2	110.0	106.9	104.7	111.8	112.5	114.9	108.9	104.4	102.4
USDA net removals										
Total (mil. lb.) ⁴	86.9	1,090.3	365.6	40.3	13.7	13.9	20.7	21.1	23.3	32.2
Butter (mil. lb.)	0.1	38.4	6.3	0.7	0.0	0.0	0.0	0.0	0.0	0.4
Am. cheese (mil. lb.)	4.6	11.3	8.2	0.6	0.6	0.7	0.9	0.7	0.5	0.4
Nonfat dry milk (Mil. lb.)	57.2	298.0	326.4	24.7	15.8	9.2	24.4	23.4	35.9	37.3
Milk										
Milk prod. 20 states (mil. lb.)	131,084	133,314	134,930	11,678	11,125	10,829	11,481	11,720	10,809	12,212
Milk per cow (lb.)	16,726	17,180	17,501	1,515	1,446	1,407	1,489	1,521	1,403	1,584
Number of milk cows (1,000)	7,837	7,760	7,710	7,709	7,695	7,697	7,708	7,704	7,702	7,708
U.S. milk production (mil. lb.) ⁵	154,006	156,091	157,441	13,689	12,961	12,611	13,365	13,677	12,609	14,240
Stocks, beginning ⁴										
Total (mil. lb.)	4,168	4,714	4,907	5,754	5,833	5,465	5,168	5,301	5,925	7,029
Commercial (mil. lb.)	4,099	4,704	4,889	5,737	5,793	5,431	5,140	5,274	5,893	7,001
Government (mil. lb.)	69	10	18	16	40	34	28	27	32	28
Imports, total (mil. lb.) ⁴	2,911	2,698	4,591	310	548	381	481	362	278	---
Commercial disappearance (mil. lb.) ⁴	154,731	156,085	159,931	13,481	13,740	13,174	13,563	13,290	11,658	---
Butter										
Production (mil. lb.)	1,174.5	1,151.2	1,081.9	106.7	88.5	91.1	106.3	123.3	111.5	109.4
Stocks, beginning (mil. lb.)	15.8	13.4	20.5	46.2	34.1	31.2	28.7	25.9	60.8	95.0
Commercial disappearance (mil. lb.)	1,179.8	1,108.7	1,124.2	95.6	101.1	97.0	109.7	89.3	78.3	---
American cheese										
Production (mil. lb.)	3,280.8	3,285.6	3,325.8	284.3	266.8	270.6	300.1	289.7	277.3	313.6
Stocks, beginning (mil. lb.)	379.7	410.4	407.7	410.7	417.4	394.7	388.5	407.7	390.8	404.0
Commercial disappearance (mil. lb.)	3,229.7	3,269.0	3,349.7	274.1	289.4	276.9	287.8	308.5	265.4	---
Other cheese										
Production (mil. lb.)	3,936.7	4,044.9	4,176.1	362.3	365.3	366.0	368.4	349.0	323.0	374.2
Stocks, beginning (mil. lb.)	105.3	107.3	70.0	110.8	135.5	128.0	105.9	109.5	108.9	139.8
Commercial disappearance (mil. lb.)	4,242.9	4,366.6	4,450.6	385.3	409.5	419.4	402.6	372.5	316.2	---
Nonfat dry milk										
Production (mil. lb.)	1,061.8	1,271.6	1,135.4	106.7	75.0	73.9	110.9	120.0	115.8	129.3
Stocks, beginning (mil. lb.)	70.6	71.1	103.3	105.3	64.4	47.2	43.7	56.3	82.4	107.6
Commercial disappearance (mil. lb.)	1,009.5	894.1	867.5	93.5	77.1	68.7	75.3	72.1	66.5	---
Frozen dessert										
Production (mil. gal.) ⁶	1,240.9	1,290.0	1,325.9	117.6	97.5	79.3	84.7	80.9	90.6	110.5
	Annual			1997		1998				1999
	1996	1997	1998	III	IV	I	II	III	IV	I
Milk production (mil. lb.)	154,006	156,091	157,441	38,627	38,031	39,164	40,821	38,519	38,937	40,526
Milk per cow (lb.)	16,433	16,871	17,192	4,195	4,144	4,268	4,451	4,210	4,261	4,436
No. of milk cows (1,000)	9,372	9,252	9,158	9,236	9,200	9,176	9,171	9,149	9,137	9,136
Milk-feed price ratio	1.60	1.54	1.97	1.47	1.71	1.73	1.71	2.05	2.46	2.20
Returns over concentrate costs (\$/cwt milk)	10.98	9.80	12.15	9.05	11.00	11.10	10.40	12.25	14.80	13.00

-- = Not available. Quarterly values for latest year are preliminary. 1. Manufacturing grade milk. 2. Grade AA Chicago before June 1998. 3. Prices paid f.o.b.

Central States production area. 4. Milk equivalent, fat basis. 5. Monthly data ERS estimates. 6. Hard ice cream, ice milk, and hard sherbet.

Information contact: LaVerne Williams (202) 694-5190

Table 15—Wool

	Annual			1997		1998				1999
	1996	1997	1998	III	IV	I	II	III	IV	I
U.S. wool price (¢/lb.) ¹	193	238	162	255	258	209	178	142	115	115
Imported wool price (¢/lb.) ²	196	206	164	213	204	192	176	141	141	146
U.S. mill consumption, scoured										
Apparel wool (1,000 lb.)	129,525	130,386	98,373	30,638	32,794	29,318	29,577	21,948	17,530	17,767
Carpet wool (1,000 lb.)	12,311	13,576	16,331	3,395	3,420	3,871	4,052	4,020	4,388	4,538

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

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

Table 16—Meat Animals

	Annual			1998			1999				
	1996	1997	1998	Apr	Nov	Dec	Jan	Feb	Mar	Apr	
Cattle on feed (7 states, 1000+ head capacity)											
Number on feed (1,000 head) ¹	8,667	8,943	9,455	8,607	9,190	9,404	9,021	8,907	8,868	8,889	
Placed on feed (1,000 head)	19,564	20,765	19,697	1,358	1,732	1,250	1,671	1,553	1,731	1,433	
Marketings (1,000 head)	18,636	19,552	19,126	1,609	1,455	1,564	1,738	1,550	1,550	1,671	
Other disappearance (1,000 head)	652	701	691	61	63	69	47	42	52	78	
Market prices (\$/cwt)											
Slaughter cattle											
Choice steers, 1,100-1,300 lb.											
Texas	65.06	65.99	61.75	64.52	62.23	59.97	61.46	63.13	64.75	65.34	
Neb. direct	65.05	66.32	61.48	64.56	61.37	59.36	60.65	62.01	64.63	65.45	
Boning utility cows, Sioux Falls	30.33	34.27	36.20	38.44	30.82	34.03	35.00	35.93	37.36	36.80	
Feeder steers											
Medium no. 1, Oklahoma City											
600-650 lb.	61.31	81.34	77.70	86.20	71.99	73.33	75.60	79.14	81.14	82.73	
750-800 lb.	61.08	76.19	71.78	74.96	71.26	71.26	71.26	73.07	70.98	70.50	
Slaughter hogs											
Barrows and gilts, 51-52 percent lean											
Iowa, S. Minn.converted to live equal.	56.53	54.30	34.72	37.78	19.95	16.62	28.58	29.65	28.25	31.69	
Sows, Iowa, S.MN 1-2 300-400 lb.	--	40.24	20.29	23.30	11.13	7.80	14.55	15.43	18.41	19.49	
Slaughter sheep and lambs											
Lambs, Choice, San Angelo	85.27	87.95	74.20	71.50	63.33	71.44	69.31	67.88	68.54	70.50	
Ewes, Good, San Angelo	39.05	49.33	40.90	43.38	36.04	45.00	41.00	40.25	45.17	46.63	
Feeder lambs											
Choice, San Angelo	94.88	104.43	79.59	76.00	74.17	70.13	78.75	82.00	81.75	81.81	
Wholesale meat prices, Midwest											
Boxed beef cut-out value											
Choice, 700-800 lb.	102.01	102.75	98.60	97.61	101.44	96.91	99.53	97.98	103.88	103.88	
Select, 700-800 lb.	95.34	96.15	92.19	96.23	92.14	90.53	94.72	95.22	102.01	102.11	
Canner and cutter cow beef	58.18	64.50	61.49	65.60	55.58	56.25	60.44	63.00	66.18	63.51	
Pork cutout	--	--	53.07	54.25	42.09	37.92	49.69	47.72	45.84	45.84	
Pork loins, bone-in, 1/4 " trim,14-19 lb.	138.73	128.75	102.04	102.51	79.90	72.49	105.82	92.35	83.47	99.35	
Pork bellies, 12-14 lb.	69.96	73.91	52.38	54.65	39.13	36.31	48.80	50.76	46.51	79.23	
Hams, bone-in, trimmed, 20-23 lb.	--	--	--	--	41.84	39.31	35.83	43.78	42.86	40.06	
All fresh beef retail price	252.44	253.77	253.28	255.38	252.89	254.08	254.82	255.45	255.33	255.33	
Commercial slaughter (1,000 head) ²											
Cattle	36,583	36,318	35,471	2,927	2,775	2,894	2,962	2,722	3,049	2,972	
Steers	17,819	17,529	17,430	1,422	1,421	1,406	1,428	1,293	1,464	1,480	
Heifers	10,756	11,528	11,450	970	888	1,070	991	945	1,031	978	
Cows	7,274	6,564	5,985	484	539	525	497	440	499	460	
Bull and stags	728	696	606	51	48	52	46	44	55	54	
Calves	1,768	1,575	1,456	109	112	130	105	100	117	97	
Sheep and lambs	4,184	3,911	3,911	384	298	355	268	299	423	310	
Hogs	92,394	91,960	101,208	8,328	8,809	9,426	8,549	7,905	9,117	8,534	
Barrows and gilts	88,224	88,409	97,026	7,997	8,482	9,069	8,226	7,600	8,769	8,217	
Commercial production (mil. lb.)											
Beef	25,421	25,384	25,656	2,090	2,004	2,101	2,170	1,997	2,230	2,155	
Veal	368	324	250	20	19	22	18	17	20	18	
Lamb and mutton	265	257	247	25	19	23	18	20	29	21	
Pork	17,084	17,244	18,981	1,566	1,683	1,799	1,627	1,501	1,737	1,630	
	Annual			1997			1998			1999	
	1996	1997	1998	IV	I	II	III	IV	I	II	
Hogs and pigs (U.S.) ³											
Inventory (1,000 head) ¹	58,201	56,124	61,158	60,459	61,158	60,163	62,213	63,488	62,206	59,851	
Breeding (1,000 head) ¹	6,770	6,578	6,957	6,858	6,957	6,942	6,958	6,875	6,682	6,527	
Market (1,000 head) ¹	51,431	49,546	54,200	53,598	54,200	53,220	55,254	56,612	55,523	53,323	
Farrowings (1,000 head)	11,114	11,479	12,038	2,939	2,929	3,086	3,054	2,993	2,892	2,799	
Pig crop (1,000 head)	94,459	99,584	104,980	25,494	25,480	26,989	26,634	25,902	25,520	--	
Cattle on Feed, 7 states (1,000 head) ⁴											
Steers and Steer Calves	5,588	5,410	5,803	5,147	5,803	5,245	4,608	5,086	5,086	5,331	
Heifers and Heifer Calves	3,005	3,455	3,615	3,383	3,615	3,325	3,191	3,268	3,268	3,527	
Cows and Bulls	74	78	37	28	37	37	26	22	22	31	

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

Crops & Products

Table 17—Supply & Utilization^{1,2}

	Area			Yield	Production	Total supply ⁴	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price ⁵
	Set-aside ³	Planted	Harvested									
	Mil. Acres			Bu./acre								\$/bu.
Wheat												
1995/96	6.1	69.0	61.0	35.8	2,183	2,757	154	986	1,241	2,381	376	4.55
1996/97	--	75.1	62.8	36.3	2,277	2,746	308	993	1,002	2,302	444	4.30
1997/98	--	70.4	62.8	39.5	2,481	3,020	248	1,009	1,040	2,297	722	3.38
1998/99*	--	65.9	59.0	43.2	2,550	3,371	350	1,002	1,050	2,402	969	2.65
1999/00*	--	63.0	55.4	40.5	2,245	3,309	275	1,015	1,150	2,440	869	2.60-3.10
	Mil. acres			lb./acre				Mil. cwt (rough equiv)				\$/cwt
Rice⁶												
1995/96	0.5	3.1	3.1	5,621.0	173.9	212.6	--	6/ 104.6	83.0	187.6	25.0	9.15
1996/97	--	2.8	2.8	6,120.0	171.6	206.6	--	6/ 101.0	78.4	179.4	27.2	9.96
1997/98	--	3.1	3.1	5,897.0	183.0	219.4	--	6/ 106.5	85.2	191.7	27.7	9.70
1998/99*	--	3.3	3.3	5,669.0	188.1	225.2	--	6/ 109.8	85.0	194.8	30.4	8.55-8.75
1999/00*	--	3.6	3.6	5,831.0	207.0	247.2	--	6/ 112.6	84.0	196.6	50.6	6.00-7.00
	Mil. acres			Bu./acre				Mil. bu.				\$/bu.
Corn												
1995/96	7.7	71.5	65.2	113.5	7,400	8,974	4,708	1,612	2,228	8,548	426	3.24
1996/97	--	79.2	72.6	127.1	9,233	9,672	5,299	1,692	1,797	8,789	883	2.71
1997/98	--	79.5	72.7	126.7	9,207	10,099	5,505	1,782	1,504	8,791	1,308	2.43
1998/99*	--	80.2	72.6	134.4	9,761	11,084	5,625	1,860	1,825	9,310	1,774	1.95-2.05
1999/00*	--	78.2	71.6	131.8	9,445	11,229	5,625	1,925	1,850	9,400	1,829	1.80-2.20
	Mil. acres			Bu./acre				Mil. bu.				\$/bu.
Sorghum												
1995/96	1.7	9.4	8.3	55.6	459	530	295	19	198	512	18	3.19
1996/97	--	13.1	11.8	67.3	795	814	516	45	205	766	47	2.34
1997/98	--	10.1	9.2	69.2	634	681	365	55	212	632	49	2.21
1998/99*	--	9.6	7.7	67.3	520	569	275	45	185	505	64	1.65-1.75
1999/00*	--	8.8	7.7	69.0	530	594	275	45	190	510	84	1.50-1.90
	Mil. acres			Bu./acre				Mil. bu.				\$/bu.
Barley												
1995/96	2.9	6.7	6.3	57.2	359	513	179	172	62	413	100	2.89
1996/97	--	7.1	6.7	58.5	392	529	217	172	31	419	109	2.74
1997/98	--	6.7	6.2	58.1	360	510	144	172	74	390	119	2.38
1998/99*	--	6.3	5.9	60.1	352	497	170	170	30	370	127	1.95
1999/00*	--	5.3	4.8	60.6	292	454	135	172	30	337	117	1.85-2.25
	Mil. acres			Bu./acre				Mil. bu.				\$/bu.
Oats												
1995/96	0.8	6.2	3.0	54.6	161	342	182	92	2	276	66	1.67
1996/97	--	4.6	2.7	57.7	153	317	153	95	3	250	67	1.96
1997/98	--	5.1	2.8	59.5	167	332	161	95	2	258	74	1.60
1998/99*	--	4.9	2.8	60.4	167	346	175	95	2	272	74	1.15
1999/00*	--	4.7	2.7	59.6	160	334	165	96	2	263	71	0.95-1.35
	Mil. acres			Bu./acre				Mil. bu.				\$/bu.
Soybeans⁷												
1995/96	--	62.6	61.6	35.3	2,177	2,516	112	1,370	851	2,333	183	6.72
1996/97	--	64.2	63.3	37.6	2,380	2,573	123	1,436	882	2,441	132	7.35
1997/98	--	70.0	69.1	38.9	2,689	2,826	158	1,597	870	2,626	200	6.47
1998/99*	--	72.4	70.8	38.9	2,757	2,963	203	1,560	770	2,533	430	5.05
1999/00*	--	73.1	72.0	40.0	2,880	3,315	155	1,635	930	2,720	595	3.95-4.75
								Mil. lbs.				¢/lb.
Soybean oil												
1995/96	--	--	--	--	15,240	16,472	--	13,465	992	14,457	2,015	24.75
1996/97	--	--	--	--	15,752	17,821	--	14,263	2,037	16,300	1,520	22.50
1997/98	--	--	--	--	18,143	19,724	--	15,264	3,077	18,341	1,382	25.84
1998/99*	--	--	--	--	17,605	19,045	--	15,300	2,450	17,750	1,295	21.00
1999/00*	--	--	--	--	18,395	19,745	--	15,650	2,300	17,950	1,795	18.00-21.00
								1,000 tons				\$/ton ⁸
Soybean meal												
1995/96	--	--	--	--	32,527	32,826	--	26,611	6,002	32,613	212	236.0
1996/97	--	--	--	--	34,210	34,524	--	27,320	6,994	34,314	210	270.9
1997/98	--	--	--	--	38,171	38,437	--	28,889	9,330	38,219	218	185.5
1998/99*	--	--	--	--	36,807	37,075	--	30,000	6,800	36,800	275	135.0
1999/00*	--	--	--	--	38,825	39,150	--	30,700	8,200	38,900	250	120-140

See footnotes at end of table, next page

Table 17—Supply & Utilization (continued)

	Area			Yield	Production	Total supply ⁴	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price ⁵
	Set-aside ³	Planted	Harvested									
	Mil. Acres			Lb./acre								¢/lb.
Cotton ⁹												
1995/96	1.7	16.9	16.0	537	17.9	21.0	--	10.6	7.7	18.3	2.6	75.4
1996/97	0.3	14.7	12.9	705	18.9	22.0	--	11.1	6.9	18.0	4.0	69.3
1997/98	--	13.9	13.4	673	18.8	22.8	--	11.3	7.5	18.8	3.9	65.2
1998/99*	--	13.4	10.7	625	13.9	18.2	--	10.5	4.1	14.6	3.6	61.5
1999/00*	--	13.9	13.0	665	18.0	21.7	--	10.6	5.5	16.1	5.5	--

-- = Not available or not applicable. *May 12, 1999 Supply and Demand Estimates. 1. Marketing year beginning June 1 for wheat, barley, and oats; August 1 for cotton and rice; September 1 for soybeans, corn, and sorghum; October 1 for soybean meal and soybean oil. 2. Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3. Includes diversion, acreage reduction, 50-92, & 0-92 programs. 0/92 & 50/92 set-aside includes idled acreage and acreage planted to minor oilseeds, sesame, and crambe. 4. Includes imports. 5. Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding and government purchases. 6. Residual included in domestic use. 7. Includes seed. 8. Simple average of 48 percent protein, Decatur. 9. Upland and extra-long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply and use estimates and changes in ending stocks. *Information contacts: Wheat, rice, feed grains, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

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

	Marketing year ¹			1998				1999		
	1996/97	1997/98	1998/99	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Wheat, no. 1 HRW,										
Kansas City (\$/bu.) ²	4.88	3.71	--	3.61	3.30	3.42	3.31	3.27	3.05	3.02
Wheat, DNS,										
Minneapolis (\$/bu.) ³	4.96	4.31	--	4.26	4.03	4.15	3.97	3.92	3.78	3.79
Rice, S.W. La. (\$/cwt) ⁴	20.34	18.92	--	18.55	17.50	17.63	17.63	17.50	17.06	16.52
Corn, no. 2 yellow, 30-day,										
Chicago (\$/bu.) ⁵	2.84	2.56	--	2.71	2.00	2.16	2.16	2.16	2.15	2.20
Sorghum, no. 2 yellow,										
Kansas City (\$/cwt) ⁵	4.54	4.11	--	4.40	3.17	3.45	3.41	3.41	3.43	3.48
Barley, feed,										
Duluth (\$/bu.)	2.32	1.90	--	1.51	--	--	--	--	--	--
Barley, malting										
Minneapolis (\$/bu.)	3.18	2.50	--	--	--	--	--	--	--	--
U.S. cotton price, SLM,										
1-1/16 in. (¢/lb.) ⁶	71.60	67.79	--	67.04	67.61	64.95	59.88	56.20	55.46	58.17
Northern Europe prices										
cotton index (¢/lb.) ⁷	78.66	72.11	--	68.41	61.12	56.53	56.02	55.78	56.26	56.74
U.S. M 1-3/32 in. (¢/lb.) ⁸	82.86	77.98	--	75.38	72.95	71.50	71.25	--	--	--
Soybeans, no. 1 yellow, 30-day										
Chicago (\$/bu)	7.38	6.51	--	6.55	5.26	5.52	5.55	5.29	4.86	4.69
Soybean oil, crude,										
Decatur (¢/lb.)	22.50	24.69	--	27.09	25.21	25.20	23.99	22.88	19.96	19.54
Soybean meal, 48% protein,										
Decatur (\$/ton)	270.90	276.78	--	174.20	135.70	144.50	146.40	138.80	132.30	133.00

-- = No quotes. 1. Beginning June 1 for wheat and barley; Aug. 1 for rice and cotton; September 1 for corn, sorghum, and soybeans; October 1 for soybean meal and oil. 2. Ordinary protein. 3. 14 percent protein. 4. Long grain, milled basis. 5. Marketing year 1997/98 data are preliminary. 6. Average spot market. 7. Liverpool Cotton "A" Index; average of 5 lowest prices of 13 selected growths. 8. Cotton, Memphis territory growths. *Information contacts: Wheat, rice, and feed, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

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

	Target price	Basic loan rate	Findley or announced loan rate ¹	Total deficiency payment rate	Effective base acres ²	Program ³	Flexibility contract payment rate	Acres under contract	Contract payment yields	Participation rate ⁴
					Mil. acres	Percent of base	\$/bu.	Mil. acres	Bu./cwt	Percent
	\$/bu.									
Wheat										
1994/95	4.00	2.72	2.58	0.61	78.10	0/0/0	--	--	--	87
1995/96	4.00	2.69	2.58	0.00	77.70	0/0/0	--	--	--	85
1996/97	--	--	2.58	--	--	--	0.874	76.7	34.70	99
1997/98	--	--	2.58	--	--	--	0.631	76.7	34.70	--
1998/99 ⁵	--	--	2.58	--	--	--	0.663	78.9	34.50	--
	\$/cwt									
Rice										
1994/95	10.71	6.50	5.88 ⁶	3.79	4.20	0/0/0	--	--	--	95
1995/96	10.71	6.50	6.50 ⁶	3.22 ⁷	4.20	5/0/0	--	--	--	95
1996/97	--	6.50	--	--	--	--	2.766	4.2	48.27	99
1997/98	--	6.50	--	--	--	--	2.710	4.2	48.17	--
1998/99 ⁵	--	6.50	--	--	--	--	2.921	4.2	48.17	--
	\$/bu.									
Corn										
1994/95	2.75	1.99	1.89	0.57	81.50	0/0/0	--	--	--	81
1995/96	2.75	1.94	1.89	0.00	81.80	7.5/0/0	--	--	--	82
1996/97	--	--	1.89	--	--	--	0.251	80.7	102.90	98
1997/98	--	--	1.89	--	--	--	0.486	80.9	102.80	--
1998/99 ⁵	--	--	1.89	--	--	--	0.377	82.0	102.60	--
	\$/bu.									
Sorghum										
1994/95	2.61	1.89	1.80	0.59	13.50	0/0/0	--	--	--	81
1995/96	2.61	1.84	1.80	0.00	13.30	0/0/0	--	--	--	77
1996/97	--	--	1.81	--	--	--	0.323	13.1	57.30	99
1997/98	--	--	1.76	--	--	--	0.544	13.1	57.30	--
1998/99 ⁵	--	--	1.74	--	--	--	0.452	13.6	56.90	--
	\$/bu.									
Barley										
1994/95	2.36	1.62	1.54	0.52	10.70	0/0/0	--	--	--	84
1995/96	2.36	1.58	1.54	0.00	10.70	0/0/0	--	--	--	82
1996/97	--	--	1.55	--	--	--	0.332	10.5	47.30	99
1997/98	--	--	1.57	--	--	--	0.277	10.5	47.20	--
1998/99 ⁵	--	--	1.56	--	--	--	0.284	11.2	46.70	--
	\$/bu.									
Oats										
1994/95	1.45	1.02	0.97	0.19	6.80	0/0/0	--	--	--	40
1995/96	1.45	1.00	0.97	0.00	6.50	0/0/0	--	--	--	44
1996/97	--	--	1.03	--	--	--	0.033	6.2	50.80	97
1997/98	--	--	1.11	--	--	--	0.031	6.2	50.80	--
1998/99 ⁵	--	--	1.11	--	--	--	0.031	6.5	50.70	--
	\$/bu.									
Soybeans ⁸										
1994/95	--	--	4.92	--	--	--	--	--	--	--
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
1998/99	--	--	5.26	--	--	--	--	--	--	--
	¢/lb.									
Upland cotton										
1994/95	72.90	50.00	50.00 ⁹	4.60	15.30	11/0/0	--	--	--	89
1995/96	72.90	51.92	51.92 ⁹	0.00 ⁷	15.50	0/0/0	--	--	--	79
1996/97	--	51.92	--	--	--	--	8.882	16.2	610.00	99
1997/98	--	51.92	--	--	--	--	7.625	16.2	608.00	--
1998/99 ⁵	--	51.92	--	--	--	--	8.173	16.4	604.00	--

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

Table 20—Fruit

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Citrus ¹										
Production (1,000 tons)	13,186	10,860	11,285	12,452	15,274	14,561	15,799	15,712	17,234	18,009
Per capita consumpt. (lb.) ²	23.6	21.4	19.1	24.4	26.0	25.0	24.1	25.0	26.8	--
Noncitrus ³										
Production (1,000 tons)	16,345	15,640	15,740	17,124	16,563	17,341	16,358	16,103	18,382	16,035
Per capita consumpt. (lb.) ²	72.8	70.4	70.6	73.8	73.9	75.6	73.7	74.0	76.0	--
	1998				1999					
	Mar	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Grower prices										
Apples (¢/pound) ⁴	20.5	16.1	19.0	22.7	22.8	17.9	15.2	15.9	15.0	15.7
Pears (¢/pound) ⁴	12.15	20.25	22.85	21.00	23.95	19.90	17.70	18.65	18.10	16.55
Oranges (\$/box) ⁵	5.14	6.71	5.37	4.97	5.42	5.87	4.74	5.15	5.60	6.02
Grapefruit (\$/box) ⁵	1.03	3.66	6.01	11.09	3.88	3.19	2.70	1.80	1.60	1.67
Stocks, ending										
Fresh apples (mil. lb.)	2,277	322	133	3,457	6,796	5,914	5,008	4,169	3,407	2,607
Fresh pears (mil. lb.)	125	0	94	534	513	384	311	237	177	122
Frozen fruits (mil. lb.)	872	1,040	1,028	1,050	1,280	1,353	1,209	1,103	1,022	911
Frozen conc. orange juice (mil. single-strength gallons)	826	918	827	736	600	629	731	825	907	894

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

Table 21—Vegetables

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Production ¹										
Total vegetables (1,000 cwt)	543,435	562,938	565,754	689,070	688,824	782,505	747,988	762,952	760,951	732,259
Fresh (1,000 cwt) ^{2,4}	254,418	254,039	242,733	389,597	387,330	412,880	393,398	409,317	433,878	419,779
Processed (tons) ^{3,4}	14,450,860	15,444,970	16,151,030	14,973,630	15,074,707	18,481,238	17,729,497	17,681,732	16,353,639	15,624,011
Mushrooms (1,000 lbs) ⁵	714,992	749,151	746,832	776,357	750,799	782,340	777,870	776,677	808,602	--
Potatoes (1,000 cwt)	370,444	402,110	417,622	425,367	428,693	467,054	443,606	499,254	467,091	477,754
Sweet potatoes (1,000 cwt)	11,358	12,594	11,203	12,005	11,027	13,380	12,821	13,216	13,327	11,887
Dry edible beans (1,000 cwt)	23,729	32,379	33,765	22,615	21,862	28,950	30,689	27,912	29,370	30,828
	1998				1999					
	Apr	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Shipments (1,000 cwt)										
Fresh	28,362	18,422	18,851	15,727	18,842	21,813	19,681	19,644	26,297	25,769
Iceberg lettuce	4,125	3,099	3,900	3,049	3,179	3,549	3,068	2,854	3,721	3,018
Tomatoes, all	4,767	2,667	2,927	2,568	2,719	3,497	3,496	3,373	4,588	3,874
Dry-bulb onions	4,009	3,278	3,783	3,049	3,084	3,423	2,896	2,845	3,825	3,630
Others ⁶	15,461	9,378	8,241	7,061	9,860	11,344	10,221	10,572	14,163	15,247
Potatoes, all	23,416	9,569	12,695	11,498	11,734	13,483	12,819	11,691	18,522	17,737
Sweet potatoes	373	96	289	326	738	448	263	227	462	208

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

Information contact: Gary Lucier (202) 694-5253

Table 22—Other Commodities

	Annual			1997		1998				1999
	1996	1997	1998	III	IV	I	II	III	IV	I
Sugar										
Production ¹	7,268	7,418	7,891	576	4,088	2,376	824	733	3,959	2,636
Deliveries ¹	9,633	9,755	9,851	2,641	2,469	2,261	2,465	2,616	2,508	2,271
Stocks, ending ¹	3,195	3,377	3,423	1,487	3,377	3,917	2,881	1,679	3,423	4,219
Coffee										
Composite green price ² N.Y. (¢/lb.)	109.35	146.49	114.43	143.29	134.89	143.58	117.73	98.57	97.83	94.37
	Annual			1998				1999		
	1996	1997	1998	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Tobacco										
Avg. price to grower ³										
Flue-cured (\$/lb.)	1.83	1.73	1.76	--	1.87	1.81	--	--	--	--
Burley (\$/lb.)	1.92	1.86	1.91	1.76	--	1.92	1.92	1.90	1.85	1.74
Domestic taxable removals										
Cigarettes (bil.)	486.0	471.4	--	40.2	40.54	--	--	--	--	--
Large cigars (mil.) ⁴	3,166.4	3,552.9	--	325.6	316.67	--	--	--	--	--

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

World Agriculture

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

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99 F	1999/00 F
Wheat										
Area (hectares)	231.4	222.5	222.9	222.0	214.5	219.2	230.6	228.3	224.9	221.4
Production (metric tons)	588.0	542.9	562.4	558.8	524.0	538.5	583.5	609.9	588.0	572.4
Exports (metric tons) ¹	101.1	111.2	113.0	101.4	100.8	98.8	101.3	100.8	95.4	100.7
Consumption (metric tons) ²	561.9	555.5	550.3	561.7	547.3	550.1	576.4	584.6	590.1	591.8
Ending stocks (metric tons) ³	145.0	132.5	144.5	141.6	118.3	106.7	113.8	139.2	137.0	117.6
Coarse grains										
Area (hectares)	316.3	321.8	323.4	316.7	322.1	313.2	322.0	309.8	306.2	303.6
Production (metric tons)	828.8	810.4	871.5	798.8	871.2	802.8	907.9	880.2	877.8	884.7
Exports (metric tons) ¹	89.1	95.6	91.9	85.3	98.5	88.3	93.9	86.4	90.2	92.4
Consumption (metric tons) ²	817.2	809.8	843.5	838.5	857.8	842.1	877.5	873.2	870.3	882.4
Ending stocks (metric tons) ³	134.8	135.4	163.2	123.6	137.0	97.7	128.1	135.1	142.6	144.9
Rice, milled										
Area (hectares)	146.6	147.3	146.4	145.0	147.4	148.0	149.8	150.8	149.1	--
Production (metric tons)	352.0	354.7	355.6	355.4	364.6	371.3	380.4	385.4	379.6	388.8
Exports (metric tons) ¹	12.2	14.3	14.9	16.3	20.9	19.7	18.7	27.4	22.0	--
Consumption (metric tons) ²	347.4	356.6	357.7	358.2	366.6	371.4	379.6	383.6	385.7	388.5
Ending stocks (metric tons) ³	59.1	57.2	55.1	52.4	50.3	50.3	51.1	52.9	46.7	47.0
Total grains										
Area (hectares)	694.3	691.6	692.7	683.7	684.0	680.4	702.4	688.9	680.2	525.0
Production (metric tons)	1,768.8	1,708.0	1,789.5	1,713.0	1,759.8	1,712.6	1,871.8	1,875.5	1,845.4	1,845.9
Exports (metric tons) ¹	202.4	221.1	219.8	203.0	220.2	206.8	213.9	214.6	207.6	193.1
Consumption (metric tons) ²	1,726.5	1,721.9	1,751.5	1,758.4	1,771.7	1,763.6	1,833.5	1,841.4	1,846.1	1,862.7
Ending stocks (metric tons) ³	338.9	325.1	362.8	317.6	305.6	254.7	293.0	327.2	326.3	309.5
Oilseeds										
Crush (metric tons)	176.7	185.1	184.4	190.1	208.1	217.4	219.2	229.6	236.1	236.0
Production (metric tons)	215.7	224.3	227.5	229.4	261.9	258.4	262.1	286.0	293.2	292.1
Exports (metric tons)	33.4	37.6	38.2	38.7	44.1	44.4	49.5	53.8	53.7	54.1
Ending stocks (metric tons)	23.4	21.9	23.6	20.3	27.2	22.2	17.1	24.1	29.7	29.0
Meals										
Production (metric tons)	119.3	125.2	125.2	131.7	142.1	147.3	149.6	156.5	161.3	161.3
Exports (metric tons)	40.7	42.2	40.8	44.9	46.7	49.7	50.7	51.5	54.2	53.9
Oils										
Production (metric tons)	58.1	60.6	61.1	63.7	69.6	73.0	75.8	77.1	80.2	89.7
Exports (metric tons)	20.5	21.3	21.3	24.3	27.1	26.0	28.9	30.1	30.3	30.4
Cotton										
Area (hectares)	33.2	34.8	32.6	30.6	32.2	35.9	33.8	33.6	32.7	33.0
Production (bales)	87.1	95.7	82.5	77.1	85.9	93.0	89.6	91.6	84.1	87.0
Exports (bales)	29.6	28.5	25.5	26.8	28.4	27.8	26.8	26.6	23.7	25.0
Consumption (bales)	85.5	85.7	85.5	85.3	85.5	86.9	89.1	88.4	84.8	86.5
Ending stocks (bales)	27.8	37.6	35.4	27.6	29.9	35.7	38.2	41.2	41.2	40.9
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999 F
Red meat⁴										
Production (metric tons)	112.3	117.7	117.3	119.3	124.6	130.2	125.0	128.5	132.9	133.8
Consumption (metric tons)	110.9	116.1	115.7	118.3	123.6	128.8	122.5	126.1	130.2	131.6
Exports (metric tons) ¹	8.2	7.5	7.4	7.4	8.1	8.2	8.5	9.0	8.8	8.9
Poultry⁴										
Production (metric tons)	33.1	39.6	38.0	40.5	43.2	46.7	49.5	51.8	53.1	55.2
Consumption (metric tons)	32.6	38.4	37.0	39.4	42.0	45.3	47.7	49.9	51.1	53.0
Exports (metric tons) ¹	1.7	2.8	2.4	2.8	3.6	4.6	5.2	5.7	5.7	5.5
Dairy										
Milk production (metric tons) ⁵	387.4	377.6	378.4	377.6	378.4	380.8	379.9	381.5	384.9	387.5

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

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

U.S. Agricultural Trade

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

	Annual			1998			1999			
	1996	1997	1998	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Export commodities										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	5.63	4.35	3.44	3.55	3.57	3.44	3.41	3.17	3.21	3.10
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	4.17	2.98	2.59	2.72	2.47	2.43	2.48	2.40	2.46	2.38
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	3.90	2.89	2.54	2.68	2.37	2.33	2.32	2.31	2.35	2.28
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	7.88	7.94	6.37	6.68	6.01	5.88	5.65	5.19	5.02	5.00
Soybean oil, Decatur (¢/lb.)	23.75	23.33	25.78	28.10	25.21	23.99	22.88	19.96	18.54	18.78
Soybean meal, Decatur, (\$/ton)	246.67	266.70	162.74	162.51	144.45	146.45	138.82	132.32	133.00	134.50
Cotton, 7-market avg. spot (¢/lb.)	77.93	69.62	67.04	61.88	64.98	59.88	56.20	55.46	58.17	57.01
Tobacco, avg. price at auction (¢/lb.)	183.20	182.74	179.77	169.51	181.01	191.02	192.51	195.04	196.54	162.96
Rice, f.o.b., mill, Houston (\$/cwt)	19.64	20.88	18.95	19.00	18.50	18.50	18.44	18.22	18.08	17.75
Inedible tallow, Chicago (¢/lb.)	20.13	20.75	17.67	17.70	16.90	16.70	16.30	12.53	11.18	11.38
Import commodities										
Coffee, N.Y. spot (\$/lb.)	1.29	2.05	1.39	1.57	1.23	1.17	1.11	1.02	1.04	1.01
Rubber, N.Y. spot (¢/lb.)	72.88	55.40	40.57	41.27	39.99	38.24	38.99	38.58	36.34	34.98
Cocoa beans, N.Y. (\$/lb.)	0.62	0.69	0.72	0.75	0.67	0.64	0.61	0.59	0.55	0.48

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

Table 25—Trade Balance

	Fiscal Year			1998				1999		
	1997	1998	1999 P	Mar	Oct	Nov	Dec	Jan	Feb	Mar
<i>\$ million</i>										
Exports										
Agricultural	57,365	53,730	49,000	4,733	4,859	4,671	4,827	3,891	3,870	4,082
Nonagricultural	569,892	584,077	--	53,299	51,298	49,144	50,071	44,557	45,793	52,091
Total ¹	627,257	637,807	--	58,032	56,157	53,815	54,898	48,448	49,663	56,173
Imports										
Agricultural	35,798	37,007	38,000	3,453	3,120	2,912	3,191	3,098	3,006	3,458
Nonagricultural	829,548	859,737	--	74,105	80,463	74,535	72,816	68,193	70,988	79,776
Total ²	865,346	896,744	--	77,558	83,583	77,447	76,007	71,291	73,994	83,234
Trade Balance										
Agricultural	21,567	16,723	11,000	1,280	1,739	1,759	1,636	793	864	624
Nonagricultural	-259,656	-275,660	--	-20,806	-29,165	-25,391	-22,745	-23,636	-25,195	-27,685
Total	-238,089	-258,937	--	-19,526	-27,426	-23,632	-21,109	-22,843	-24,331	-27,061

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

Table 26—Indexes of Real Trade-Weighted Dollar Exchange Rates¹

	Annual			1998				1999		
	1996	1997	1998	Mar	Oct	Nov	Dec	Jan	Feb	Mar P
					1990=100					
Total U.S. trade	100.8	111.9	115.1	116.7	109.3	111.4	110.5	109.5	109.4	109.6
Agricultural trade										
U.S. markets	101.0	109.6	115.5	117.1	113.8	113.1	111.7	111.6	112.0	112.9
U.S. competitors	98.7	109.1	113.9	115.5	109.0	110.4	110.1	110.6	111.1	110.8
High-value products										
U.S. markets	100.4	108.2	111.9	109.5	110.7	110.2	109.1	107.6	108.1	109.6
U.S. competitors	100.1	110.9	114.6	116.8	109.2	111.1	110.6	110.5	110.5	110.1
Corn										
U.S. markets	96.4	107.1	113.3	111.8	109.0	107.8	106.1	104.3	105.9	107.7
U.S. competitors	90.1	97.4	100.2	100.8	97.0	98.0	98.0	97.6	97.2	97.1
Soybeans										
U.S. markets	96.0	107.9	113.9	114.7	108.6	108.6	106.9	105.5	105.7	105.8
U.S. competitors	80.8	82.2	84.9	84.0	86.7	87.0	87.3	95.5	105.7	106.0
Wheat										
U.S. markets	100.7	105.4	112.2	116.7	111.8	110.6	109.6	113.7	114.6	115.7
U.S. competitors	102.1	109.8	116.0	114.8	114.6	115.3	115.5	114.5	113.7	114.3
Vegetables										
U.S. markets	105.6	112.4	117.8	114.5	118.5	117.7	117.0	115.6	115.5	116.9
U.S. competitors	100.5	112.0	114.1	116.6	108.3	110.0	109.3	108.7	108.0	107.2
Red meats										
U.S. markets	93.3	100.4	109.0	107.0	105.3	104.3	102.1	99.5	100.9	102.6
U.S. competitors	98.0	107.9	112.8	114.0	108.5	110.0	110.0	109.8	110.1	110.4
Fruits & fruit juices										
U.S. markets	101.3	111.3	114.1	111.5	112.8	112.6	111.8	110.3	110.7	112.3
U.S. competitors	98.2	107.2	111.7	113.1	107.9	108.7	108.6	109.5	111.4	110.9
Cotton										
U.S. markets	95.5	105.7	123.8	125.5	116.7	114.5	112.5	112.5	113.5	114.9
U.S. competitors	101.6	103.0	106.8	109.3	105.4	105.1	105.3	106.2	106.8	107.5
Poultry										
U.S. markets	102.8	111.9	109.2	130.2	116.4	115.2	116.2	129.2	129.5	130.0
U.S. competitors	95.7	107.3	109.9	112.0	105.0	106.3	106.0	108.3	111.0	110.8

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. The "total U.S. trade" index uses the Federal Reserve Board index of trade-weighted value of the U.S. dollar against 10 major countries. Weights are based on relative importance of major U.S. customers and competitors in world markets. Indexes are subject to revision for up to one year due to delayed reporting by some countries. High-value products conform to FAS's definition for consumer-oriented agricultural products.

Data are available at <http://mann77.mannlib.cornell.edu/data-sets/international/88021/>. Information contact: Tim Baxter (202) 694-5318 or

Andy Jerardo (202) 694-5323

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

Table 27—U.S. Agricultural Exports & Imports

	Fiscal Year			Mar		Fiscal Year			Mar	
	1997	1998	1999 P	1998	1999	1997	1998	1999 P	1998	1999
	1,000 units					\$ million				
EXPORTS										
Animals, live	--	--	--	--	--	508	538	--	28	22
Meats and preps., excl. poultry (mt) ¹	1,823	2,064	1,700	186	172	4,438	4,507	4,200	399	378
Dairy products	--	--	--	--	--	869	925	900	92	82
Poultry meats (mt)	2,553	2,663	2,300	215	179	2,516	2,347	1,900	183	128
Fats, oils, and greases (mt)	1,056	1,365	1,300	136	122	543	655	--	64	49
Hides and skins, incl. furskins	--	--	--	--	--	1,693	1,358	1,400	151	110
Cattle hides, whole (no.)	20,761	18,992	--	2,058	1,415	1,232	969	--	103	66
Mink pelts (no.)	3,600	2,990	--	622	1,279	96	83	--	19	30
Grains and feeds (mt) ²	95,091	87,289	--	7,223	8,424	16,368	13,961	13,800	1,209	1,187
Wheat (mt) ³	24,526	25,791	28,500	1,720	1,778	4,117	3,759	3,900	268	235
Wheat flour (mt)	511	465	600	25	81	141	117	--	7	18
Rice (mt)	2,560	3,310	3,200	340	245	959	1,132	1,100	120	89
Feed grains, incl. products (mt) ⁴	53,796	44,564	49,400	4,049	5,019	7,166	5,187	4,800	492	520
Feeds and fodders (mt)	12,295	11,704	11,900	960	1,179	2,688	2,421	2,300	211	210
Other grain products (mt)	1,404	1,455	--	128	123	1,295	1,345	--	111	114
Fruits, nuts, and preps. (mt)	3,830	3,633	--	348	306	4,261	3,977	4,200	313	298
Fruit juices, incl.										
froz. (1,000 hectoliters)	10,455	10,658	--	873	1,050	658	653	--	58	65
Vegetables and preps.	--	--	--	--	--	4,081	4,168	2,800	369	382
Tobacco, unmanufactured (mt)	238	208	--	23	23	1,612	1,448	1,400	158	144
Cotton, excl. linters (mt) ⁵	1,566	1,552	900	193	48	2,711	2,517	1,400	308	76
Seeds (mt)	1,200	816	--	73	65	913	827	900	82	86
Sugar, cane or beat (mt)	139	123	--	12	12	60	48	--	5	4
Oilseeds and products (mt)	33,808	36,074	33,800	3,030	2,823	11,288	10,984	8,600	897	668
Oilseeds (mt)	24,735	24,358	--	1,632	2,017	7,875	6,818	--	462	427
Soybeans (mt)	24,027	23,394	22,300	1,523	1,944	6,950	6,117	4,700	401	380
Protein meal (mt)	6,671	8,666	--	1,144	583	1,795	1,975	--	249	93
Vegetable oils (mt)	2,402	3,049	--	255	223	1,618	2,191	--	186	148
Essential oils (mt)	46	46	--	4	5	619	533	--	52	51
Other	--	--	--	--	--	4,228	4,284	--	364	352
Total	--	--	--	--	--	57,365	53,730	49,000	4,733	4,082
IMPORTS										
Animals, live	--	--	--	--	--	1,525	1,670	1,400	149	148
Meats and preps., excl. poultry (mt)	1,140	1,230	1,200	108	122	2,583	2,718	2,800	239	263
Beef and veal (mt)	785	857	--	76	79	1,552	1,761	--	153	167
Pork (mt)	260	271	--	21	32	766	686	--	56	66
Dairy products	--	--	--	--	--	1,273	1,368	1,400	100	120
Poultry and products	--	--	--	--	--	186	207	--	14	18
Fats, oils, and greases (mt)	76	80	--	6	8	58	59	--	5	6
Hides and skins, incl. furskins (mt)	--	--	--	--	--	210	184	--	19	16
Wool, unmanufactured (mt)	38	45	--	4	2	131	151	--	15	5
Grains and feeds	--	--	--	--	--	2,941	2,919	3,000	243	238
Fruits, nuts, and preps.,										
excl. juices (mt) ⁶	7,121	7,581	8,000	838	830	3,773	3,982	5,000	420	438
Bananas and plantains (mt)	3,950	4,175	4,100	394	380	1,218	1,214	1,300	111	107
Fruit juices (1,000 hectoliters)	29,829	26,577	27,000	2,679	2,277	913	669	--	69	59
Vegetables and preps.	--	--	--	--	--	3,604	4,249	4,500	483	447
Tobacco, unmanufactured (mt)	337	241	200	15	16	1,179	822	800	52	66
Cotton, unmanufactured (mt)	27	10	--	--	12	34	11	--	--	14
Seeds (mt)	223	257	--	43	66	357	422	--	54	91
Nursery stock and cut flowers	--	--	--	--	--	974	1,082	1,100	85	93
Sugar, cane or beet (mt)	2,938	2,170	2,100	84	217	1,013	758	--	31	47
Oilseeds and products (mt)	3,780	4,314	4,300	405	381	2,248	2,243	2,300	201	190
Oilseeds (mt)	985	1,028	--	104	109	374	371	--	34	32
Protein meal (mt)	967	1,277	--	130	101	181	188	--	19	13
Vegetable oils (mt)	1,828	2,010	--	171	172	1,693	1,684	--	148	145
Beverages, excl. fruit										
juices (1,000 hectoliters)	--	--	--	--	--	3,247	3,705	--	316	376
Coffee, tea, cocoa, spices (mt)	2,305	2,369	--	238	251	5,778	6,056	--	608	520
Coffee, incl. products (mt)	1,212	1,155	1,200	115	141	3,698	3,587	3,800	376	318
Cocoa beans and products (mt)	767	875	1,000	90	81	1,414	1,701	1,800	165	141
Rubber and allied gums (mt)	1,075	1,162	1,200	105	96	1,315	1,027	1,100	95	60
Other	--	--	--	--	--	2,458	2,703	--	255	243
Total	--	--	--	--	--	35,798	37,007	38,000	3,453	3,458

P=Projection. -- = Not available. Projections are fiscal years (October 1 through September 30) and are from Outlook for U.S. Agricultural Exports.

1997 and 1998 data are from *Foreign Agricultural Trade of the U.S.* 1. Projection includes beef, pork, and variety meat. 2. Projection includes pulses.

3. Value projection includes wheat flour. 4. Projection excludes grain products. 5. Projection includes linters. 6. Value projection includes juice.

NOTE: Totals include transshipments through Canada, but transshipments are not distributed by commodity as previously.

NOTE: Adjusted transshipments through Canada for 1997 exports. Information Contact: Mary Fant (202) 694-5272

Table 28—U.S. Agricultural Exports by Region

	Fiscal year			1998				1999		
	1997	1998	1999F	Mar	Oct	Nov	Dec	Jan	Feb	Mar
	\$ million									
Region & country										
WESTERN EUROPE	9,617	8,844	7,500	712	804	818	841	748	623	615
European Union ¹	8,997	8,508	7,300	683	764	788	821	728	597	590
Belgium-Luxembourg	715	666	--	40	68	48	83	47	39	47
France	557	538	--	40	60	44	44	45	26	30
Germany	1,376	1,294	--	94	104	120	130	107	91	100
Italy	792	722	--	83	81	58	72	59	44	61
Netherlands	2,011	1,792	--	145	111	162	219	185	172	138
United Kingdom	1,289	1,300	--	110	135	128	85	97	78	91
Portugal	243	185	--	12	9	16	11	24	11	12
Spain, incl. Canary Islands	1,087	1,126	--	97	122	137	77	102	70	48
Other Western Europe	620	336	200	29	39	30	20	19	25	25
Switzerland	506	236	--	24	29	14	13	15	18	19
EASTERN EUROPE	317	320	300	24	16	23	25	18	15	16
Poland	164	139	--	16	6	8	3	8	7	4
Former Yugoslavia	72	97	--	2	6	6	12	6	2	1
Romania	37	31	--	2	1	2	2	0	1	6
NEWLY INDEPENDENT STATES	1,593	1,456	1,400	122	46	25	46	40	35	55
Russia	1,281	1,103	1,100	102	18	14	28	20	17	37
ASIA ²	26,436	21,954	16,800	2,069	1,954	1,869	1,913	1,632	1,620	1,713
West Asia (Mideast)	2,562	2,285	2,100	230	227	158	206	118	189	159
Turkey	742	658	600	65	54	48	51	22	53	21
Iraq	50	131	--	9	0	0	0	0	8	1
Israel, incl. Gaza and W. Bank	543	389	--	37	52	12	43	27	43	40
Saudi Arabia	630	535	500	53	58	41	55	25	39	39
South Asia	728	623	600	32	82	54	80	43	30	30
Bangladesh	123	114	--	12	30	15	28	22	6	6
India	152	163	--	12	20	14	38	13	15	17
Pakistan	418	275	--	6	26	18	12	7	3	4
China	1,774	1,514	1,300	182	239	121	79	59	60	35
Japan	10,713	9,459	8,000	871	697	786	794	789	779	820
Southeast Asia	3,136	2,282	2,000	187	193	190	211	197	168	176
Indonesia	768	529	400	26	50	32	60	39	27	39
Philippines	898	744	600	56	56	53	57	50	74	50
Other East Asia	7,523	5,790	4,900	567	515	560	543	427	393	492
Korea, Rep.	3,293	2,245	2,000	252	198	216	200	203	160	231
Hong Kong	1,640	1,568	1,300	137	129	137	142	86	92	101
Taiwan	2,588	1,971	1,600	174	188	203	200	138	141	161
AFRICA	2,265	2,167	1,900	181	179	165	213	169	189	184
North Africa	1,480	1,475	1,300	108	114	102	149	120	130	132
Morocco	166	139	--	9	7	12	15	4	23	16
Algeria	307	281	--	28	23	12	23	23	21	13
Egypt	928	939	900	61	83	67	103	90	82	92
Sub-Sahara	785	692	600	73	65	63	63	49	59	52
Nigeria	106	140	--	8	10	17	10	13	24	5
S. Africa	239	193	--	29	20	13	16	13	10	14
LATIN AMERICA and CARIBBEAN	9,984	11,348	11,400	985	1,074	1,035	1,142	726	841	869
Brazil	461	566	400	24	110	64	36	25	12	14
Caribbean Islands	1,473	1,487	--	133	148	114	135	130	124	120
Central America	1,029	1,137	--	89	98	125	128	83	110	96
Colombia	552	592	--	56	39	53	50	27	41	35
Mexico	5,077	5,956	6,700	562	539	556	633	351	416	512
Peru	178	314	--	17	39	35	39	22	35	13
Venezuela	552	516	500	51	45	40	53	37	41	52
CANADA	6,620	7,022	6,700	596	601	591	586	517	514	597
OCEANIA	534	545	500	42	56	47	42	42	33	34
TOTAL	57,365	53,730	49,000	4,733	4,859	4,671	4,827	3,891	3,870	4,082

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

Farm Income

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

	1990	1991	1992	1993	1994	1995	1996	1997	1998P	1999F
	\$ billion									
Final crop output	83.3	81.0	89.0	82.4	100.3	95.8	115.6	112.5	101.7	96.5
Food grains	7.5	7.3	8.5	8.2	9.5	10.4	10.7	10.6	8.7	7.8
Feed crops	18.7	19.3	20.1	20.2	20.4	24.6	27.3	27.6	23.0	21.4
Cotton	5.5	5.2	5.2	5.2	6.7	6.9	7.0	6.5	6.0	5.5
Oil crops	12.3	12.7	13.3	13.2	14.7	15.5	16.4	19.9	17.2	14.6
Tobacco	2.7	2.9	3.0	2.9	2.7	2.5	2.8	2.9	3.0	2.7
Fruits and tree nuts	9.4	9.9	10.2	10.3	10.3	11.1	11.9	12.8	11.8	12.7
Vegetables	11.5	11.6	11.9	13.5	13.9	14.9	14.6	15.1	15.4	15.5
All other crops	12.8	13.1	13.7	14.0	14.9	15.2	15.9	16.7	17.1	17.3
Home consumption	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Value of inventory adjustment ¹	2.8	(1.2)	3.2	(5.3)	7.2	(5.4)	8.9	0.3	(0.6)	(1.1)
Final animal output	90.2	87.3	87.1	91.7	89.7	87.6	92.2	96.2	94.5	95.2
Meat animals	51.2	50.1	47.7	50.8	46.8	44.8	44.4	49.9	43.6	45.2
Dairy products	20.2	18.0	19.7	19.2	19.9	19.9	22.8	21.0	24.3	23.4
Poultry and eggs	15.3	15.2	15.5	17.3	18.4	19.1	22.3	22.2	22.8	22.9
Miscellaneous livestock	2.5	2.5	2.6	2.8	3.0	3.2	3.4	3.5	4.0	4.0
Home consumption	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.4	0.4
Value of inventory adjustment ¹	0.4	1.0	1.0	1.1	1.1	0.2	(1.1)	(0.7)	(0.6)	(0.6)
Services and forestry	15.3	15.4	15.2	16.6	17.9	19.4	20.7	22.1	23.2	23.8
Machine hire and customwork	1.8	1.8	1.8	1.9	2.1	1.9	2.2	2.6	2.6	2.6
Forest products sold	1.8	1.8	2.2	2.6	2.7	2.9	2.8	2.8	2.9	2.9
Other farm income	4.5	4.7	4.2	4.6	4.4	5.2	5.9	6.3	6.8	6.9
Gross imputed rental value of farm dwellings	7.2	7.2	7.0	7.6	8.7	9.3	9.8	10.3	10.9	11.4
Final agricultural sector output²	188.7	183.7	191.3	190.7	207.9	202.8	228.5	230.8	219.4	215.4
<i>Minus</i> Intermediate consumption outlays:	92.9	94.6	93.5	100.6	104.9	109.0	112.9	118.6	113.8	112.9
Farm origin	39.5	38.6	38.6	41.2	41.3	41.6	42.7	45.7	43.6	42.9
Feed purchased	20.4	19.3	20.1	21.4	22.6	23.8	25.2	25.2	24.3	23.6
Livestock and poultry purchased	14.6	14.1	13.6	14.6	13.3	12.3	11.2	13.8	12.6	12.6
Seed purchased	4.5	5.1	4.9	5.2	5.4	5.5	6.2	6.7	6.8	6.7
Manufactured inputs	22.0	23.2	22.7	23.1	24.4	26.2	28.6	29.0	27.2	27.6
Fertilizers and lime	8.2	8.7	8.3	8.4	9.2	10.0	10.9	10.9	10.4	10.2
Pesticides	5.4	6.3	6.5	6.7	7.2	7.7	8.5	8.8	8.9	8.9
Petroleum fuel and oils	5.8	5.6	5.3	5.3	5.3	5.4	6.0	6.2	5.3	5.7
Electricity	2.6	2.6	2.6	2.7	2.7	3.0	3.2	3.0	2.6	2.8
Other intermediate expenses	31.4	32.8	32.2	36.2	39.2	41.2	41.5	43.9	43.0	42.4
Repair and maintenance of capital items	8.6	8.6	8.5	9.2	9.1	9.5	10.3	10.4	10.3	10.3
Machine hire and customwork	3.6	3.5	3.8	4.4	4.8	4.8	4.7	4.8	4.7	4.6
Marketing, storage, and transportation	4.2	4.7	4.5	5.6	6.8	7.2	6.9	7.1	6.9	7.0
Contract labor	1.6	1.6	1.7	1.8	1.8	2.0	2.1	2.6	2.7	2.8
Miscellaneous expenses	13.5	14.3	13.7	15.2	16.7	17.8	17.5	19.0	18.3	17.8
<i>Plus</i> Net government transactions:	3.1	2.1	2.7	6.9	1.0	0.1	0.1	0.1	4.8	6.9
+ Direct government payments	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	14.4
- Motor vehicle registration and licensing fees	0.4	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5
- Property taxes	5.9	5.8	6.1	6.2	6.5	6.7	6.8	7.0	7.0	7.1
Gross value added	98.9	91.2	100.5	97.0	104.0	93.9	115.7	112.3	110.3	109.4
<i>Minus</i> Capital consumption	18.1	18.2	18.3	18.4	18.7	19.1	19.4	19.5	19.6	19.7
Net value added²	80.7	73.0	82.1	78.6	85.3	74.8	96.3	92.8	90.7	89.7
<i>Minus</i> Factor payments:	36.0	34.4	34.6	35.1	37.0	38.8	42.9	42.9	44.5	44.5
Employee compensation (total hired labor)	12.5	12.3	12.3	13.2	13.5	14.3	15.4	16.0	17.1	17.6
Net rent received by nonoperator landlords	10.0	9.9	11.2	11.0	11.8	11.8	14.3	13.2	13.2	13.2
Real estate and non-real estate interest	13.4	12.1	11.1	10.8	11.7	12.7	13.2	13.7	14.1	13.7
Net farm income²	44.7	38.6	47.5	43.6	48.3	36.0	53.4	49.8	46.2	45.1

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

Table 30—Farm Income Statistics

	1990	1991	1992	1993	1994	1995	1996	1997	1998P	1999F
<i>\$ billion</i>										
Cash Income statement:										
1. Cash receipts	169.5	167.9	171.4	177.8	181.2	188.1	199.6	208.7	197.0	193.0
Crops ¹	80.3	82.1	85.7	87.6	93.1	101.1	106.6	112.1	102.3	97.5
Livestock	89.2	85.8	85.6	90.2	88.2	87.0	93.0	96.6	94.7	95.4
2. Direct Government payments	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	14.4
3. Farm-related income ²	8.1	8.3	8.2	9.0	9.2	10.1	10.9	11.8	12.3	12.3
4. Gross cash income (1+2+3)	186.9	184.3	188.7	200.2	198.3	205.5	217.8	228.0	221.5	219.7
5. Cash expenses ³	134.1	134.0	133.6	141.2	147.6	153.6	161.4	167.2	163.8	163.1
6. Net cash income (4-5)	52.8	50.4	55.1	59.0	50.7	51.8	56.4	60.8	57.7	56.7
Farm income statement:										
7. Gross cash income (4)	186.9	184.3	188.7	200.2	198.3	205.5	217.8	228.0	221.5	219.7
8. Noncash income ⁴	7.9	7.8	7.6	8.1	9.2	9.8	10.2	10.7	11.3	11.9
9. Value of inventory adjustment	3.3	-0.2	4.2	-4.2	8.3	-5.1	7.8	-0.4	-1.2	-1.7
10. Gross farm income (7+8+9)	198.0	191.9	200.5	204.1	215.8	210.1	235.8	238.3	231.6	229.9
12. Net farm income (10-11)	44.7	38.6	47.5	43.6	48.3	36.0	53.4	49.8	46.2	45.1

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

Information contact: Roger Strickland (202) 694-5592 or rogers@econ.ag.gov

Table 31—Average Income to Farm Operator Households¹

	1992	1993	1994	1995	1996	1997	1998F	1999F
<i>\$ per farm</i>								
Net cash farm business income ²	11,320	11,248	11,389	11,218	13,502	12,460	--	--
Less depreciation ³	5,187	6,219	6,466	6,795	6,906	6,578	--	--
Less wages paid to operator ⁴	216	454	425	522	531	513	--	--
Less farmland rental income ⁵	360	534	701	769	672	568	--	--
Less adjusted farm business income due to other household(s) ⁶	961	872	815	649	1,094	*1,429	--	--
<i>\$ per farm operator household</i>								
Equals adjusted farm business income	4,596	3,168	2,981	2,484	4,300	3,373	--	--
Plus wages paid to operator	216	454	425	522	531	513	--	--
Plus net income from farmland rental ⁷	360	--	--	1,053	1,178	945	--	--
Equals farm self-employment income	5,172	3,623	3,407	4,059	6,009	4,831	--	--
Plus other farm-related earnings ⁸	2,008	1,192	970	661	1,898	1,158	--	--
Equals earnings of the operator household from farming activities	7,180	4,815	4,376	4,720	7,906	5,989	5,552	5,269
Plus earnings of the operator household from off-farm sources ⁹	35,731	35,408	38,092	39,671	42,455	46,358	48,167	49,828
Equals average farm operator household income	42,911	40,223	42,469	44,392	50,361	52,347	53,719	55,096
<i>\$ per U.S. household</i>								
U.S. average household income ¹⁰	38,840	41,428	43,133	44,938	47,123	49,692	--	--
<i>Percent</i>								
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	106.9	105.3	--	--
Average operator household earnings from farming activities as percent of average operator household income	16.7	12.0	10.3	10.6	15.7	11.4	--	--

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

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

	1990	1991	1992	1993	1994	1995	1996	1997	1998P	1999F
\$ billion										
Farm assets	841.5	844.9	870.3	906.4	938.3	981.9	1,033.9	1,088.8	1,124.7	1,140.3
Real estate	620.0	625.5	642.8	673.7	706.9	755.7	799.5	849.2	891.7	904.1
Livestock and poultry ¹	70.9	68.1	71.0	72.8	67.9	57.8	60.3	66.8	57.0	59.0
Machinery and motor vehicles	86.3	85.9	85.4	86.5	87.5	88.5	88.9	88.1	91.0	90.0
Crops stored ^{2,3}	23.2	22.2	24.2	23.3	23.3	27.4	31.7	29.9	30.0	31.0
Purchased inputs	2.8	2.6	3.9	3.8	5.0	3.4	4.4	5.1	5.0	5.2
Financial assets	38.3	40.5	43.1	46.3	47.6	49.1	49.1	49.7	50.0	51.0
Total farm debt	138.0	139.2	139.1	142.0	146.8	150.8	156.1	165.4	170.4	169.1
Real estate debt ³	74.7	74.9	75.4	76.0	77.7	79.3	81.7	85.4	87.6	86.7
Non-real estate debt ⁴	63.2	64.3	63.6	65.9	69.1	71.5	74.4	80.1	82.8	82.4
Total farm equity	703.5	705.7	731.3	764.4	791.5	831.1	877.8	923.4	954.3	971.2
Percent										
Selected ratios										
Debt to equity	19.6	19.7	19.0	18.6	18.5	18.1	17.8	17.9	17.9	17.4
Debt to assets	16.4	16.5	16.0	15.7	15.6	15.4	15.1	15.2	15.2	14.8

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

Table 33—Cash Receipts from Farming

	Annual			1998					1999	
	1996	1997	1998 P	Feb	Sep	Oct	Nov	Dec	Jan	Feb
\$ million										
Commodity sales ¹	199,580	208,665	196,979	13,459	16,261	21,133	20,293	18,213	16,757	12,600
Livestock and products	93,005	96,568	94,723	7,095	7,939	8,172	8,957	7,501	7,930	7,036
Meat animals	44,414	49,925	43,644	3,549	3,428	3,494	3,758	2,898	3,351	3,406
Dairy products	22,820	20,989	24,312	1,803	2,092	2,303	2,283	2,453	2,395	1,958
Poultry and eggs	22,345	22,183	22,821	1,565	2,032	2,191	2,150	1,972	1,907	1,495
Other	3,425	3,471	3,945	178	387	184	766	178	277	178
Crops	106,575	112,097	102,256	6,364	8,322	12,961	11,335	10,712	8,828	5,564
Food grains	10,741	10,603	8,738	482	686	592	561	664	683	404
Feed crops	27,265	27,638	22,966	1,603	1,405	2,640	2,698	2,589	2,922	1,379
Cotton (lint and seed)	6,983	6,515	6,021	564	198	751	963	1,088	383	297
Tobacco	2,796	2,886	3,049	107	591	365	207	818	372	124
Oil-bearing crops	16,362	19,911	17,201	1,203	1,078	3,911	1,915	1,611	1,837	920
Vegetables and melons	14,561	15,086	15,383	842	1,573	1,578	925	906	961	882
Fruits and tree nuts	11,933	12,790	11,835	546	1,257	1,487	1,685	1,222	609	534
Other	15,935	16,668	17,064	1,016	1,534	1,637	2,382	1,815	1,061	1,024
Government payments	7,340	7,496	12,220	88	1,809	1,980	3,498	1,150	2,408	815
Total	206,919	216,160	209,198	13,547	18,070	23,113	23,791	19,364	19,166	13,415

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

Table 34—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops ¹				Total ¹			
			Jan	Feb			Jan	Feb			Jan	Feb
	1997	1998 P	1999	1999	1997	1998 P	1999	1999	1997	1998 P	1999	1999
\$ million ²												
NORTH ATLANTIC												
Maine	258	281	26	23	228	225	17	18	486	506	43	41
New Hampshire	69	69	6	5	97	84	5	5	166	153	11	10
Vermont	416	472	46	39	97	86	3	4	513	558	50	43
Massachusetts	102	110	9	9	430	384	12	11	532	494	21	20
Rhode Island	9	9	1	1	74	56	3	3	83	65	4	4
Connecticut	218	228	19	17	279	254	13	13	496	482	32	30
New York	1,859	2,092	209	164	1,037	1,025	68	62	2,896	3,117	277	226
New Jersey	180	140	10	7	596	610	23	22	776	751	33	29
Pennsylvania	2,789	2,914	290	249	1,339	1,279	110	93	4,128	4,193	400	342
NORTH CENTRAL												
Ohio	1,869	1,848	163	141	3,476	3,115	286	181	5,345	4,963	449	322
Indiana	1,896	1,628	119	111	3,610	3,357	304	172	5,506	4,985	423	284
Illinois	1,937	1,577	108	123	7,339	6,175	986	454	9,276	7,752	1,094	577
Michigan	1,352	1,343	124	105	2,236	2,131	155	112	3,588	3,474	279	216
Wisconsin	4,070	4,505	392	290	1,686	1,708	148	78	5,756	6,214	540	368
Minnesota	4,054	3,755	308	288	4,101	3,923	338	180	8,155	7,678	646	468
Iowa	5,530	4,779	346	348	7,311	6,222	807	365	12,841	11,001	1,154	713
Missouri	2,795	2,419	181	173	2,768	2,259	260	141	5,564	4,678	442	314
North Dakota	611	551	53	40	2,702	2,419	188	116	3,313	2,971	241	156
South Dakota	1,820	1,574	131	132	2,417	1,954	202	116	4,237	3,528	333	248
Nebraska	5,542	5,128	381	414	4,550	3,732	562	239	10,092	8,859	943	653
Kansas	5,017	4,537	332	317	3,985	3,242	358	147	9,001	7,779	690	465
SOUTHERN												
Delaware	573	609	54	38	174	159	6	7	748	768	60	44
Maryland	915	947	87	65	623	551	27	25	1,538	1,499	113	90
Virginia	1,538	1,621	137	120	863	745	41	28	2,401	2,367	178	147
West Virginia	324	336	24	24	71	70	4	4	394	407	29	28
North Carolina	4,694	3,915	288	239	3,608	3,223	117	116	8,302	7,138	404	356
South Carolina	797	764	60	53	898	741	36	29	1,695	1,505	95	81
Georgia	3,442	3,442	315	232	2,445	2,186	108	75	5,887	5,629	423	307
Florida	1,265	1,407	134	119	4,978	5,278	632	580	6,243	6,685	766	699
Kentucky	1,978	2,134	158	117	1,655	1,781	379	145	3,633	3,915	537	262
Tennessee	1,005	1,036	140	79	1,287	1,150	115	60	2,292	2,186	255	139
Alabama	2,431	2,587	228	181	796	681	30	30	3,227	3,267	258	211
Mississippi	2,006	2,169	190	161	1,470	1,278	104	62	3,476	3,447	294	223
Arkansas	3,416	3,320	292	227	2,446	2,169	139	108	5,862	5,489	431	335
Louisiana	659	664	59	63	1,481	1,261	151	47	2,140	1,925	210	110
Oklahoma	3,061	2,840	220	242	1,308	1,063	71	39	4,369	3,904	292	282
Texas	8,184	8,215	636	617	5,277	4,962	350	225	13,461	13,177	986	842
WESTERN												
Montana	991	866	76	77	1,072	924	73	61	2,063	1,790	149	138
Idaho	1,389	1,584	150	112	1,926	1,756	82	75	3,315	3,340	232	187
Wyoming	646	680	48	53	199	170	10	7	845	851	58	60
Colorado	3,012	2,869	246	222	1,388	1,483	157	78	4,399	4,352	403	300
New Mexico	1,354	1,438	137	124	562	472	20	19	1,915	1,911	157	143
Arizona	888	946	81	87	1,257	1,420	143	115	2,145	2,366	223	202
Utah	715	734	60	55	238	244	16	11	953	978	76	67
Nevada	180	194	17	16	130	173	11	8	310	368	28	25
Washington	1,604	1,723	145	123	3,778	3,384	201	176	5,382	5,107	346	298
Oregon	740	777	60	59	2,373	2,307	115	98	3,113	3,083	175	157
California	6,294	6,843	625	529	18,995	17,945	805	771	25,289	24,788	1,431	1,299
Alaska	6	7	1	0	26	26	2	2	32	33	2	2
Hawaii	68	92	8	7	415	411	34	30	483	503	42	37
U.S.	96,568	94,723	7,930	7,036	112,097	102,256	8,828	5,564	208,665	196,979	16,757	12,600

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

Table 35—CCC Net Outlays by Commodity & Function

	Fiscal year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999 E	2000 E
	\$ million									
COMMODITY/PROGRAM										
Feed grains:										
Corn	2,387	2,105	5,143	625	2,090	2,021	2,587	2,873	4,894	3,087
Grain sorghum	243	190	410	130	153	261	284	296	474	311
Barley	71	174	186	202	129	114	109	168	316	148
Oats	12	32	16	5	19	8	8	17	32	20
Corn and oat products	9	9	10	10	1	0	0	0	0	0
Total feed grains	2,722	2,510	5,765	972	2,392	2,404	2,988	3,354	5,716	3,566
Wheat and products	2,805	1,719	2,185	1,729	803	1,491	1,332	2,187	2,918	1,291
Rice	867	715	887	836	814	499	459	491	707	433
Upland cotton	382	1,443	2,239	1,539	99	685	561	1,132	1,629	781
Tobacco	-143	29	235	693	-298	-496	-156	376	-254	-143
Dairy	839	232	253	158	4	-98	67	291	435	528
Soybeans	40	-29	109	-183	77	-65	5	139	450	2,339
Peanuts	48	41	-13	37	120	100	6	-11	1	0
Sugar	-20	-19	-35	-24	-3	-63	-34	-30	-48	-41
Honey	19	17	22	0	-9	-14	-2	0	1	-1
Wool and mohair	172	191	179	211	108	55	0	0	6	-6
Operating expense ¹	625	6	6	6	6	6	6	5	4	4
Interest expenditure	745	532	129	-17	-1	140	-111	76	152	181
Export programs ²	733	1,459	2,193	1,950	1,361	-422	125	212	960	1,014
1988/99 Disaster/tree/ livestock assistance	121	1,054	944	2,566	660	95	130	3	2,609	4
Conservation Reserve Program	0	0	0	0	0	2	1,671	1,693	1,508	1,578
Other conservation programs	0	0	0	0	0	7	105	197	309	366
Other	155	-162	949	-137	-103	320	104	28	1,101	531
Total	10,110	9,738	16,047	10,336	6,030	4,646	7,256	10,143	18,204	12,425
Function										
Price support loans (net)	418	584	2,065	527	-119	-951	110	1,128	55	982
Cash direct payments: ³										
Production flexibility contract	0	0	0	0	0	5,141	6,320	5,672	5,544	5,042
Marketing loss assistance	0	0	0	0	0	0	0	0	3,058	0
Deficiency	6,224	5,491	8,607	4,391	4,008	567	-1,118	-7	0	0
Diversion	0	0	0	0	0	0	0	0	0	0
Dairy termination	96	2	0	0	0	0	0	0	0	0
Loan deficiency	21	214	387	495	29	0	0	478	1,804	2,713
Other	0	140	149	171	97	95	7	416	288	10
Conservation Reserve Program	0	0	0	0	0	2	1,671	1,693	1,508	1,578
Other conservation programs	0	0	0	0	0	0	85	156	260	310
Noninsured Assistance (NAP)	0	0	0	0	0	2	52	23	67	89
Total direct payments	6,341	5,847	9,143	5,057	4,134	5,807	7,017	8,431	12,529	9,742
1988-98 crop disaster	6	960	872	2,461	584	14	2	-2	2,375	0
Emergency livestock/tree/DRAP livestock indemn/forage assist.	115	94	72	105	76	81	128	5	234	4
Purchases (net)	646	321	525	293	-51	-249	-60	207	737	11
Producer storage payments	1	14	9	12	23	0	0	0	0	0
Processing, storage, and transportation	240	185	136	112	72	51	33	38	84	42
Export donations ocean transportation	50	139	352	156	50	69	34	40	681	65
Operating expense ¹	625	6	6	6	6	6	6	5	4	4
Interest expenditure	745	532	129	-17	-1	140	-111	76	152	181
Export programs ²	733	1,459	2,193	1,950	1,361	-422	125	212	960	1,014
Other	190	-403	545	-326	-105	100	-28	3	393	380
Total	10,110	9,738	16,047	10,336	6,030	4,646	7,256	10,143	18,204	12,425

1. Does not include CCC Transfers to General Sales Manager. 2. Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Access (Promotion) Program, starting in FY 1991 and starting in FY 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, Dairy Export Incentive Program, and Technical Assistance to Emerging Markets.

3. Includes cash payments only. Excludes generic certificates in FY 86-96. E=Estimated in the FY 2000 President's Budget which was released on February 1, 1999 based on November 1998 supply and demand estimates. The CCC outlays shown for 1996-2000 include the impact of the Federal Agricultural Improvement and Reform Act of 1996, which was enacted April 4, 1996. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds). Information contact: Richard Pazdalski Farm Service Agency - Budget at (202) 720-3675 or Richard_Pazdalski@wdc.fsa.usda.gov. Further detail can be found at www.fsa.usda.gov/dam/BUD/bud1.htm

Food Expenditures

Table 36—Food Expenditures

	Annual			1999			Year-to-date cumulative		
	1997	1998	1999	Feb	Mar	Apr	Feb	Mar	Apr
\$ billion									
Sales ¹									
At home ²	380.2	395.3	--	27.4	30.6	30.0	59.8	90.4	120.2
Away from home ³	297.9	301.7	--	24.4	26.3	26.9	48.5	74.8	101.6
1995 \$ billion									
Sales ¹									
At home ²	371.0	378.5	--	25.8	28.6	28.2	56.2	84.8	113.0
Away from home ³	289.7	286.0	--	22.8	24.4	24.9	45.2	69.7	94.6
Percent change from year earlier (\$ billion)									
Sales ¹									
At home ²	3.4	4.0	--	-5.1	-3.3	-7.3	-0.2	-1.2	-2.8
Away from home ³	3.0	1.3	--	9.8	6.4	8.8	6.6	6.6	7.1
Percent change from year earlier (1995 \$ billion)									
Sales ¹									
At home ²	1.0	2.0	--	-7.3	-6.1	-9.1	-2.3	-3.6	-5.1
Away from home ³	0.2	-1.3	--	7.0	3.6	6.0	3.9	3.8	4.3

-- = Not available. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production.

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

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

Transportation

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

	Annual			1998				1999		
	1996	1997	1998 R	Mar	Oct	Nov R	Dec R	Jan R	Feb R	Mar
Rail freight rate index ¹ (Dec. 1984=100)										
All products	111.5	112.1	113.4	113.3	113.4	113.2	113.2	113.1	112.7	112.4
Farm products	115.9	120.3	123.9	124.7	121.2	121.2	121.2	121.5	121.6	121.6
Grain food products	108.8	107.6	107.4	108.0	107.2	107.2	107.2	107.2	99.2	99.2
Grain shipments										
Rail carloadings (1,000 cars) ²	25.2	23.2	22.8	21.7	26.5	24.9	24.6	23.4	24.8	23.3
Barge shipments (mil. ton) ^{3,4}	3.1	2.6	3.0	2.7	3.3	4.6	3.5	1.3	2.7	2.8
Fresh fruit and vegetable shipments ⁵										
Piggy back (mil. cwt)	1.1	1.1	0.9	0.9	0.8	0.8	0.9	0.6	0.6	0.7
Rail (mil. cwt)	1.6	1.7	1.2	1.1	1.3	1.5	1.4	1.4	0.9	1.1
Truck (mil. cwt)	35.7	42.6	42.2	40.6	41.2	40.2	40.5	40.9	35.1	44.0

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

Indicators of Farm Productivity

Table 38—Indexes of Farm Production, Input Use, & Productivity¹

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

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

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

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Food Supply & Use

Table 39—Per Capita Consumption of Major Food Commodities¹

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

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

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