

AGRICULTURAL OUTLOOK



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Cover photo: Incorporating preplant herbicide with one tractor while planting soybeans with another. Grant Heilman; Grant Heilman Photography.

Spring Planting Intentions . . . Risk Management Programs . . . Catfish Production & Sales . . . Ag Industry Concentration & Competition

Feed Grain & Wheat Planting Intentions Down

Planting intentions for the eight major U.S. field crops total 250.7 million acres in 1999, down 2.1 percent from last year's planted area and down 3.9 percent from the most recent peak in 1996. With prices depressed from a year earlier, farmers intend to reduce corn plantings to the lowest level in 4 years, cutting back other feed grain area as well, and to plant the fewest wheat acres in 26 years. In contrast, farmers intend to plant more soybeans, cotton, and rice. While prices for these crops are also lower, expected returns are higher than for competing crops, bolstered in part by prospective gains under government nonrecourse marketing loan programs for soybeans and cotton.

Catfish Industry to Haul in Higher Revenues

Catfish is the dominant and most successful sector of the U.S. aquaculture industry, accounting for over 50 percent of aquaculture production. Production is concentrated in four southern states, with Mississippi's 65-percent share leading the way. From 1990 to 1998, annual catfish production rose from 392 to 599 million pounds, a 53-percent increase, the result of a rise in both total acreage devoted to catfish ponds and average per-acre production. The 5-7 percent increase forecast for 1999 would bring total production to 630-640 million pounds. With farm and wholesale prices expected to remain about the same as 1998, farm sales for the catfish industry in 1999 should approach \$500 million, up from \$469 million.

Farmers to Cut Borrowing Amid Income Uncertainty

Farm-sector borrowing is expected to decline by \$1.3 billion in 1999, ending 7 years of debt expansion. Given the expectation of lower crop prices and farm income in 1999, as well as continuing uncertainty about the economies of some major importers of U.S. farm products, farmers are likely to remain cautious



about debt use. At yearend 1998, total farm business debt was an estimated \$170.4 billion, up 3 percent from 1997, with nonreal estate loans up 3.4 percent and real estate loans up 2.6 percent. The strong financial position of most commercial agricultural lenders at yearend 1998 is expected to carry over into 1999.

Recent Developments in Crop Yield & Revenue Insurance

The Federal crop insurance program in the 1990's has broadened the scope and variety of risk protection products offered to producers. The list of covered crops has grown from about 50 in the early 1990's to over 70 in 1999. A major reform in 1994 dramatically increased acreage covered by crop insurance by increasing insurance premium subsidies, adding a basic coverage level (catastrophic), and linking insurance to other farm programs. Maximum optional coverage levels have also been raised under pilot programs for some crops in some areas. Revenue insurance, a relatively new product that provides income protection against both price and yield fluctuations, has captured significant shares of the crop insurance business. At the same time, private insurance companies have played a larger role in

delivering crop insurance, developing new products, and sharing underwriting risk. Still, questions remain about the adequacy of crop insurance coverage.

Tax-Deferred Savings Accounts For Farmers

A program of tax-deferred savings accounts for farmers is among the alternatives currently under consideration by Congress to help farm operators manage year-to-year income variability. A farmer could deposit funds into a special Farm and Ranch Risk Management (FARRM) account during years of high net farm income and draw on it during years with abnormally low income; Federal income taxes would be deferred until withdrawal. Taxpayers could benefit if the additional financial diversification and liquidity these accounts provide to farmers reduce the need for continued income support programs or ad hoc farm disaster relief. The program's effectiveness could be limited if benefits are concentrated among operators with large farms and relatively high off-farm income, or if farmers fund FARRM accounts with existing liquid assets instead of new savings.

Concentration & Competition in the U.S. Food & Agricultural Industries

Concentration and competition have come into focus as the U.S. food and agricultural sector continues to industrialize, with farms or factories expanding in size, becoming more specialized, and relying more on contractual and administrative methods for buying or selling agricultural commodities. Concentration—a sharp decline in the number of buyers or sellers in an industry—may limit competition and affect prices, depending on such factors as ease of entry into the market, availability of substitutes for the product, and the nature of rivalry among existing firms in the market. Broad structural changes associated with industrialization also raise issues unrelated to competition and market prices, such as environmental concerns involving large livestock operations or processing plants.

Briefs

Field Crops

U.S. Farmers Curtail Feed Grain & Wheat Plantings in 1999

On the eve of planting decisions for major field crops in 1999, U.S. farmers faced lower prices across the board, down 15 percent or more for most crops from a year earlier. They responded by reducing planting intentions 5.4 million acres from last year's planted acreage. A net increase of 1-1.5 million acres enrolled in the Conservation Reserve Program (CRP) also played a role in the decline.

Planting intentions for the eight major U.S. field crops (corn, soybeans, wheat, barley, sorghum, oats, cotton, and rice) total 250.7 million acres in 1999, down 2.1 percent from last year's planted area and down 3.9 percent from the most recent peak in 1996. Farmers intend to reduce corn plantings to the lowest level in 4 years and cut back other feed grain area as well, and to plant the fewest wheat acres in 26 years. In contrast, farmers intend to boost cotton and rice area and will plant more acres to soybeans in 1999, the eighth straight increase. Planting intentions and trend yields suggest a very large U.S. soybean crop and a slightly reduced but still large corn crop in 1999. If yields approximate the average for the last 3 years, wheat production will decline by 10 percent.

Until this year, both soybean and corn plantings had increased each year since implementation of the 1996 Farm Act, legislation which allows farmers more flexibility in their planting decisions to respond to market signals. Unlike earlier U.S. farm law, the 1996 Farm Act no longer ties producers' participation in farm programs to base acreage planting requirements for a specific program crop nor restricts production through acreage reduction programs. As a result, corn and soybean acreage expanded into the wheat-dominated Central and Northern Plains since 1996 because of relatively higher net returns for these crops. Corn and soybean acreage also rose in traditional cotton land in the Southeast in 1997 and 1998.

Meanwhile, wheat acreage in the Northern Plains has declined as more land traditionally planted to wheat was switched to minor oilseeds, such as sunflower and canola, or summer fallow. For example, sunflower planted acreage in North Dakota increased from 1.2 million acres in 1996 to 2 million in 1998 and 1999.

Intended *soybean* acreage for 1999 is 73.1 million acres, 1 percent higher than last year's planted acreage despite sharply lower prices. Large U.S. and Brazilian soybean supplies and weak export demand have pushed soybean prices at planting about 25 percent lower than 1998.

Intended soybean plantings increased in the Corn Belt (especially Iowa and Wisconsin) and in the Central and Northern Plains (e.g., Nebraska and South Dakota) for several reasons. Soybean yields have grown faster than corn yields, and adoption of genetically modified herbicide-tolerant soybeans has reduced input costs for many farmers. Prices of competing crops have also declined, and the loan rate for soybeans has augmented expected market returns this year (under the nonrecourse marketing loan program). Farmers in the Delta and Southeast (especially Louisiana and Mississippi) intend to decrease their

plantings of soybeans for the second year after a spike in 1997. An attractive marketing loan program has helped make cotton a more profitable alternative this year.

Corn growers intend to plant 78.2 million acres in 1999, down 2 percent from last year's planted acreage because of lower expected corn prices, concerns in the South about aflatoxin—a fungus byproduct which prevents the use of the corn for human consumption and sharply limits the use of the corn in livestock feeding—and unusual dryness in the Southern Plains. Most of the decline in intended corn acreage—1.4 million acres of the total—is in the Southern Plains, Delta, and Southeast regions, driven by acreage shifts to cotton and, to a lesser extent, sorghum. A part of these corn acres probably will be left fallow as well.

States in this area showing the largest declines in acreage are Texas, Mississippi, Louisiana, North Carolina, Arkansas, and Georgia. Several major corn producing states—Iowa, Nebraska, Minnesota, and Wisconsin—also show a decrease in planting intentions for corn as farmers switch to soybeans or minor oilseeds, such as canola. Corn planting intentions are up slightly in the Central Corn Belt (Illinois and Indiana), largely due to rotation with soybeans.

Among other feed grains, *barley* planting intentions show the largest percentage decline—17 percent from last year's planted acreage. Intended barley plantings are down 500,000 and 190,000 acres in

Planting Intentions for Corn and Wheat Are Down from Last Year's Plantings

	1998			1999
	Intended acreage	Planted acreage	Harvested acreage	intended acreage
Million acres				
Corn	80.8	80.2	72.6	78.2
Soybeans	72.0	72.4	70.8	73.1
Wheat	67.0	65.9	59.0	63.0
Sorghum	9.0	9.6	7.7	8.8
Barley	6.8	6.3	5.9	5.3
Oats	5.2	4.9	2.8	4.7
Rice	3.1	3.3	3.3	3.6
Cotton	13.2	13.4	10.7	13.9
Total	257.1	256.1	232.8	250.7

Economic Research Service, USDA

With Soybean Prices Falling, Why Are Planting Intentions Up?

U.S. farmers' intentions to plant a record 73.1 million acres of soybeans in 1999, as reported in USDA's March 1999 *Prospective Plantings*, continue a steady upward trend in soybean acreage since implementation of the 1996 Farm Act. For farmers participating in Federal commodity programs, the legislation provides nearly full planting flexibility to respond to the relatively higher market returns for soybeans in recent years.

But this year, the market price for soybeans is much lower. On March 15, new-crop soybean futures (November contract) settled at \$4.90 per bushel, down 25 percent from a year earlier. So why is soybean acreage continuing to expand when farmers face a dramatic price decline?

USDA's Economic Research Service recently completed a study to quantify farmers' planting decision response to prices. These acreage-price relationships can be used to isolate the effects of commodity prices on field crop plantings. In the case of soybeans, this year's increase in planting intentions from 72 million acres in 1998 to 73.1 in 1999 can be accounted for by four factors, with the soybean loan rate (under the nonrecourse marketing loan program) pulling up the total.

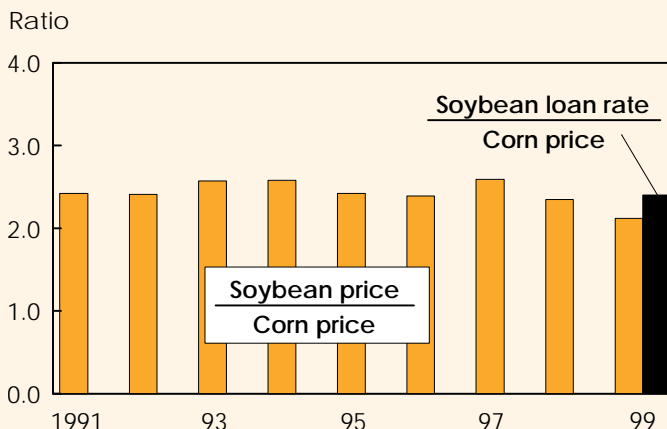
ERS research indicates that this year's decline in the *expected soybean price* by itself would reduce soybean plantings by 4.84 million acres from last year's level. Research indicates soybean intended plantings decline 0.265 percent for each 1-percent decline in the expected soybean farm price.

Partially offsetting this decline is the effect of lower *expected prices for competing crops*, which encourages soybean plantings. Considered in isolation from soybean prices, lower prices for corn (down 15.3 percent), wheat (down 15.6 percent), sorghum (down 15.3), and cotton (down 11.3) result in an increase of 2.76 million acres in soybean plantings in 1999. The expected corn price has the biggest impact (nearly 2.5 million acres), with research showing that soybean plantings rise 0.225 percent for each 1-percent decline in the price of corn.

Another increase in intended soybean plantings—amounting to 1.7 million acres—can be attributed to additional acreage shifting out of winter wheat due to changing *costs and returns*. This increase is in addition to the increase accounted for by the price response for wheat described above, and is based on a comparison of expected net returns among winter wheat's main competing crops, including soybeans. Most of the acreage not planted to winter wheat will be switched to soybeans, and *not* to other crops such as corn, partly because cost savings in input use have been greater for biotech soybeans.

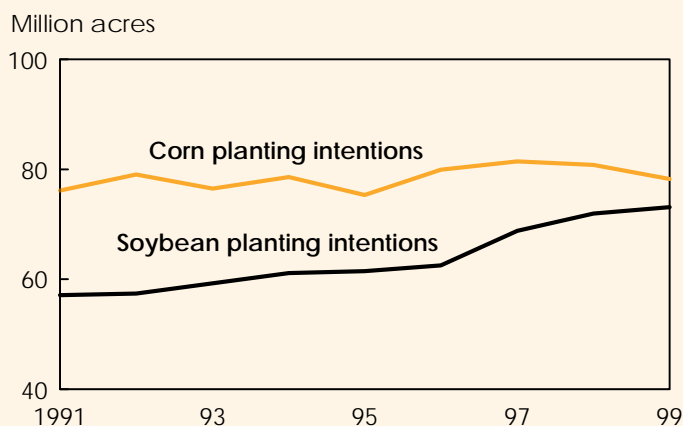
A fourth factor—the *soybean loan program*, which guarantees farmers at least \$5.26 per bushel—pushes planting intentions up another 1.7 million acres. As a per-unit rev-

Loan Rate Makes Soybeans More Attractive Than Market Prices Suggest...



New-crop futures prices (November for soybeans and December for corn) in mid-March, adjusted to U.S. farm-level equivalent.

...and Soybean Planting Intentions Continue Rising



Economic Research Service, USDA

enue guarantee, the program essentially reduces the expected decline in the soybean farm price from 25.3 percent to 16.5 percent.

Combining the effects of these four factors results in a net increase of 1.3 million acres in soybean planting intentions. The 0.2-million-acre discrepancy between the calculated amount and reported planting intentions reflects differences between actual and predicted outcomes inherent in the analysis.

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This analysis is based on information in a forthcoming ERS report that examines acreage-price relationships for major field crops.

Briefs

North Dakota, the largest producing state, and Minnesota, the fifth largest producing state. Contributing factors are the current low price of barley relative to other crops and concerns over scab disease outbreaks.

Planting intentions for *sorghum* are 9 percent lower than last year's planted acreage. The bulk of the acreage decline comes from Texas, where sorghum area is down 0.9 million acres, a 24-percent decline. Intended *oat* acreage is down 3 percent from last year's planted acreage, with more than half of that decline in North Dakota.

Total *wheat* area intentions for 1999—at 63 million acres—are down 4 percent from last year's planted area. The USDA *Winter Wheat and Rye Seedings* report indicated in January that farmers planted 43.4 million acres of winter wheat for harvest in 1999, the lowest since 1972. Responding to lower prices and unfavorable planting conditions, particularly in the Southern Plains, farmers reduced winter wheat plantings last fall by 7 percent from the year earlier. A 20-percent decline in the expected price for soft red winter wheat contributed to a 0.8-million-acre decline in winter wheat acreage in the Corn Belt as acreage shifted to soybeans. Similarly, low prices for hard red winter wheat (HRW) led to a 1-million-acre decline in HRW wheat acreage in the Central and Northern Plains region (Kansas, Nebraska, and South Dakota). In Montana, winter wheat acreage was down 0.4 million acre from the previous year as acreage shifted to spring wheat.

In 1999, farmers intend to increase spring wheat (including durum) plantings to 19.6 million acres, up 0.2 million from last year's planted area. Driving the increase is 4.3 million acres of prospective durum wheat plantings, a 12-percent jump from last year and the largest plantings since

1982. The intentions indicate a shift from spring wheat to durum wheat in North Dakota, where an attractive insurance policy overwhelmed market signals to reduce durum plantings. Farmers intend to reduce "other spring" (i.e., non-durum) wheat plantings 2 percent to 15.4 million acres in 1999, due mainly to a small decline in the expected price for hard red spring wheat.

Cotton planting intentions total 13.9 million acres, nearly 4 percent higher than last year's planted acreage, with the increase coming mostly from Mississippi and Georgia. While market prices for cotton have declined more than 18 percent, the decline in expected per-unit return is only 11 percent, in part because of the cotton marketing loan program. In comparison, expected returns for competing crops, such as corn, wheat, sorghum, and soybeans, show an even greater decline. In the South, planting intentions indicate corn acreage will likely switch to cotton instead of soybeans. Cotton has higher expected net returns than soybeans, reflecting a soybean-to-cotton price ratio at the planting decision point of less than 10—an estimated break-even price ratio between these two competing crops.

Rice growers intend to plant 3.6 million acres, a 7-percent increase from 1998, with long grain and medium grain plantings indicated up 6 percent and 13 percent from last year. Planting intentions are higher this year in all six major producing states, with Mississippi and California indicating the largest percentage increases. U.S. rice prices during the 1998/99 crop year, though showing a modest decline from last year, are expected to decline less than prices for competing crops such as soybeans. **AO**

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May Releases—USDA's Agricultural Statistics Board

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

May

- 3 Crop Progress (4 p.m.)
- 4 Dairy Products
Egg Products
Poultry Slaughter
- 5 Broiler Hatchery
Basic Formula Milk Price
(Wisconsin State Report)
- 7 Dairy Products Prices
(8:30 a.m.)
- 10 Crop Progress (4 p.m.)
- 12 Cotton Ginnings- Annual
(8:30 a.m.)
Crop Production (8:30 a.m.)
Broiler Hatchery
- 14 Dairy Products Prices
(8:30 a.m.)
Potato Stocks
Turkey Hatchery
- 17 Milk Production
Crop Progress (4 p.m.)
- 19 Ag. Chem. Usage -Field Crops
Broiler Hatchery
- 20 Catfish Processing
- 21 Dairy Products (8:30 a.m.)
Cattle on Feed
Cold Storage
Farm Labor
Livestock Slaughter
Meat Animals—P D I
Milk—P D I
- 24 Chicken and Eggs
Crop Progress (4 p.m.)
NASS Facts Newsletter (4 p.m.)
- 26 Broiler Hatchery
- 28 Dairy Products Prices
(8:30 a.m.)
Agricultural Prices
Peanut Stocks and Processing

These estimates are based on farmer surveys conducted during the first 2 weeks of March. USDA's *Prospective Plantings* report for 1999, released on March 31, provides the first indication of farmers' spring planting intentions for major field crops. With adverse weather or significant changes in crop prices, actual plantings could vary from intentions. For example, persistent wet conditions in spring could delay corn plantings and cause a switch from corn to soybeans. USDA will release acreage estimates (in a survey completed around June 1) in its June 30 *Acreage* report, after crops have been planted or when planting intentions are more definite.

Livestock, Dairy, & Poultry

Cattle Inventory Expansion Likely Delayed Yet Another Year

A series of indicators strongly suggests that the anticipated cattle herd expansion will be delayed yet again. The number of cattle and calves (beef and dairy) on farms and ranches on January 1, 1999 declined for the third consecutive year, down 1 percent from a year earlier and 5 percent from the 1996 cyclical peak of 103.5 million. The beef cow herd is down over 5 percent from 1996, and the number of cows and heifers that have calved (heifers are counted as cows after their first calving) declined 1 percent from a year ago and nearly 3 percent from 1997.

Most important for future production, the number of heifers being retained on January 1 for possible breeding herd replacement was down 4 percent from a year earlier. The 1998 calf crop, though above expectations, was 1 percent below a year earlier, and with the inventory of breeding and replacement cattle also down, the 1999 calf crop will almost certainly decline, virtually assuring that the cattle herd inventory will decline again in 1999.

Heifer slaughter in 1997 and 1998 was extremely large, leaving the number of heifers available to enter the breeding herd in 1999 likely to be very low. Most of these heifers will not be bred until late-spring to summer, to calve in 2000. If the number of heifers retained and bred this summer remains relatively low, as it has for the last several years, the calf crop, and thus feeder cattle supplies, will be down again in 2000, delaying any rise until 2001. At such a low rate of heifer retention, even with reduced cow slaughter in 1999, beef cow inventories on January 1, 2000 may be below the most recent low of 32.5 million recorded in 1990, and could be the lowest since the mid-1960's.

First-quarter cow slaughter and feedlot statistics on heifers provide an early view of herd rebuilding dynamics. Commercial cattle slaughter is expected to decline 1-2 percent from 1998, and cow slaughter to decline about 7 percent, as more are retained in the breeding herd. First-quarter

cow slaughter has already shown a 4-percent decrease from a year earlier; however, most of the decline was from dairy cows. Dairy calves remain an important source of feedlot placements. Beef cow slaughter was down less than 1 percent from a year earlier, but down 17 percent from first-quarter 1997. In 1996, the strongest year of breeding herd liquidation, cows comprised nearly 20 percent of the slaughter mix, and over 16 percent of the cow herd was slaughtered. In 1999, cow slaughter is expected to drop to 16 percent of the commercial slaughter total.

Although heifers on feed in feedlots with a capacity of over 1,000 head were down 4 percent on January 1, 1999 from a year earlier, first-quarter feedlot placements of heifers were up sharply, with the number of heifers on feed up 6 percent on April 1, indicating that strong heifer retention for the breeding herd would likely be delayed for another year. These feedlot placements were likely of heifers that had been intended for breeding in late spring-early summer, but instead were sent to feedlots when drought impact from last summer and other financial pressures convinced producers they could not yet afford to expand their herds. Midyear figures on heifer retention will confirm whether this is indeed the case, which would delay the expected turnaround in cattle inventories until 2002.

The supply of feeder cattle outside feedlots and available to go on feed was 1 percent below a year earlier on January 1, 1999. On April 1 the supply was down 5 percent. Feeder cattle supplies and feedlot placements should begin to decline this spring, as fewer heifers are available to be placed on feed, and as steer placements continue to reflect the declining calf crops. Cattle-on-feed inventories will likely be down 10-12 percent by the beginning of 2000. Feedlot placements are likely to remain low through at least mid-2000, and given the large number of heifers currently on feed, probably will not increase until after the expected

increased heifer retention in 2000 results in a larger calf crop in 2001.

Increased competition for a reduced cattle inventory will result in stronger cattle prices beginning in late 1999, with larger increases for female stock and for stocker-feeder cattle as interest in rebuilding climbs. Cull cow prices are expected to show the largest gains as cow slaughter declines fairly sharply. As herd rebuilding begins, demand for replacement cows will strengthen, and cows that may have gone to slaughter in the past 3 years are likely to be sold for breeding until more replacement heifers enter the herd. Utility boning cows are likely to average in the low \$40's per cwt, up from \$36 in 1998 and \$30 in 1996 when slaughter was high.

Fed-cattle price gains will be limited, however, by the still-large beef supplies and the very large and expanding supplies of competing meats. Fed-cattle prices averaged \$61.50 per cwt in 1998 and may average \$63 to \$66 this year. Prices are expected to remain under pressure from large feedlot inventories through summer, but removal of supplies through food aid to Russia will begin to siphon off excess product. Averages may reach the upper \$60's in late 1999, but further supply reductions in 2000 will be necessary before prices move up into the \$70 range.

Yearling feeder-cattle prices are likely to average in the mid-\$70's in 1999, up several dollars from last year, and nearly \$15 above 1996's low prices. Competition from pork and poultry will hold down price increases for fed cattle and consequently, for feeder cattle. Unless the beef export market strengthens more than presently expected, price strength will be largely dependent on how well beef competes at retail against lower priced meats.

Large feedlot inventories of heifers this winter not only will set back herd rebuilding, but also will push up 1999 beef production estimates. Declining production and stronger beef prices will not begin until late 1999, and then only if feeding costs and pasture conditions, primarily adequate moisture, continue to be favorable for herd expansion. **AO**

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Briefs

Specialty Crops

U.S. to Remain Net Importer of Vegetables in 1999

In 1999, the U.S. is expected to be a net importer of vegetables, melons, and pulses for the fourth consecutive year. This year's trade deficit will likely remain near 1998's level of \$600 million as growth rates decline for both imports and exports. Larger domestic supplies along with lower prices are expected to limit import increases, while a strong dollar and larger foreign supplies of items like dry beans will hobble export gains. In spite of the strong dollar and reduced fresh vegetable supplies in 1998, total vegetable exports amounted to \$3.2 billion, up 6 percent from 1997. The value of imports jumped 22 percent to \$3.8 billion, with much of the increase attributable to higher prices for fresh-market commodities.

The *import share* of U.S. vegetable and melon consumption is rising, climbing from 7 percent in 1990 to 11 percent in 1998. Rising imports have led to trade tensions in some segments of the industry (e.g., fresh tomatoes, canned mushrooms, frozen potatoes) as domestic growers cite unfair competition from lower import prices. Nevertheless, imports are likely to continue rising over the next several years, with strong "off-season" demand, continued interest in tropical and other specialty vegetables, and lower import barriers as a result of NAFTA and the Uruguay Round Agreement.

With the advantage of lower transportation costs, Mexico and Canada have historically been the top two U.S. suppliers, accounting for 50 and 19 percent of U.S. vegetable imports. Rounding out the top five import sources are the Netherlands (4 percent), China (3.7 percent), and Spain (3.5 percent). About three-fourths of imports from the Netherlands are fresh-market greenhouse-grown vegetables, while 60 percent of imports from Spain are canned artichokes and pimientos. China primarily supplies products like canned mushrooms, canned bamboo shoots, and dried vegetable products.

As the leading U.S. vegetable supplier, Mexico tends to receive the most attention from market observers. The value of vegetable imports from Mexico has risen 63 percent since 1994 to \$1.9 billion in 1998. However, U.S. vegetable imports from Canada have climbed even faster, jumping 152 percent to \$700 million in 1998—the largest increase among the top five suppliers. Factors behind the increase include the reduced value of the Canadian dollar, removal of import tariffs, the existence of multinational corporations operating in both countries, and rising interest in greenhouse-grown vegetables.

Growth in imports from Canada has been similar among the top three market segments (fresh, canned, frozen) since 1994, with shares of total imports relatively unchanged. U.S. fresh-market imports from Canada have risen 154 percent since 1994 to \$320 million in 1998. A rapidly expanding specialty market in the U.S. for greenhouse/hydroponic vegetables is a major factor behind the increase, and Canada has the largest greenhouse

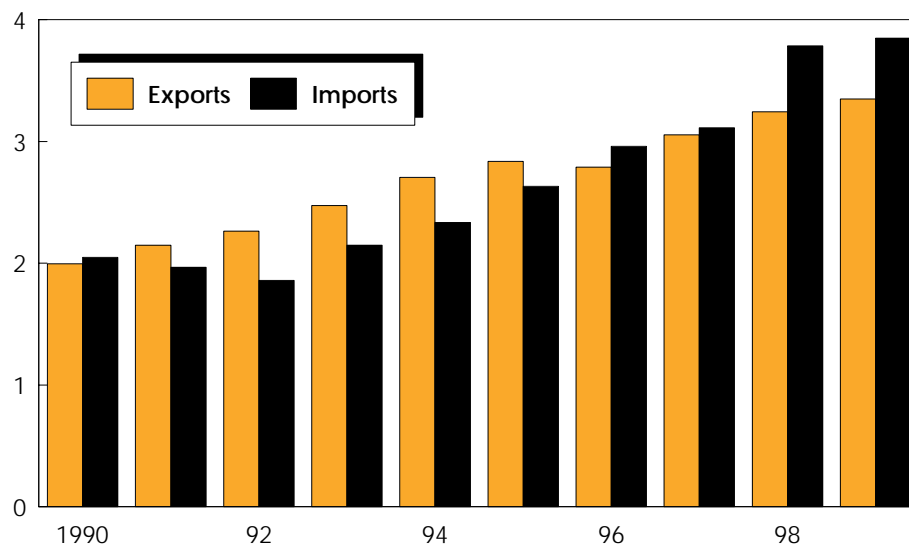
vegetable acreage in North America (about 700 acres). Frozen vegetable imports from Canada have risen 162 percent to \$295 million, with three-fourths of the total in french fried potatoes. Most french fries enter under contract with fast-food firms. Canada also appears to be shipping the ketchup to go with those fries. Ketchup exports to the U.S. increased from a minute amount in 1993 to \$19 million last year.

U.S. vegetable and melon *exports* claimed 9 percent of the 160 billion pounds in total U.S. vegetable supplies during 1998—up from 6 percent in 1990. With mature domestic markets for many vegetables (e.g., canned vegetables, potatoes), exports provide an avenue for market expansion. Export growth is expected to continue as the elimination of impediments to free trade (e.g., questionable phytosanitary rules and labeling requirements) continues to open world markets for U.S. vegetables. With quality products and aggressive pricing, many U.S. vegetable market segments are highly competitive in world markets.

Export dependence varies among vegetables, led by onions for dehydration (66 percent of supplies), dry edible peas and lentils (51 percent), fresh-market

U.S. Vegetable Import Growth to Slow in 1999

\$ billion



Includes vegetables, melons, pulses, mushrooms, and seed. 1999 forecast.

Economic Research Service, USDA

cauliflower (34 percent), dry edible beans (24 percent), and fresh-market broccoli (19 percent). But there is amazingly little variation of export dependence across the three major market segments (fresh, canned, and frozen), with exports accounting for 8-9 percent of supplies for each group.

Fresh-market vegetables and melons claimed the largest share of total vegetable exports at about \$1.1 billion for

each of the past 5 years. Lettuce (all types) was the largest fresh export in 1998 (\$167 million), followed by tomatoes (\$120 million). Exports remove 8 and 6 percent of domestic supplies, respectively, for these two commodities. These shares have remained fairly constant for several decades as growth in domestic consumption has matched rising exports. **AO**

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Foreign Ag Policy

EU's Agenda 2000 to Revise Farm Policy

On March 26, 1999, the European Council—heads of state of European Union (EU) member countries—reached an agreement on Agenda 2000, a 7-year (2000-06) financial package that includes agricultural policy reforms, as well as provisions for easing the expansion of the EU into Central and Eastern Europe (CEE). Though the agricultural policy reforms are considerably less substantial than those originally proposed by the European Commission in July 1997, Agenda 2000—aimed at the arable crops (grains and oilseeds), dairy, and beef sectors—will shift the EU slightly further from price supports and toward direct payments and supply control.

EU representatives have stated that provisions of Agenda 2000 will be the basis for the EU's position in the upcoming World Trade Organization (WTO) round on agriculture, expecting that agreement on Agenda 2000 will improve the EU's negotiating position on export subsidies and import duties. However, preliminary analysis of the revised Agenda 2000 proposals suggests that when the current package is implemented, the EU will have to continue subsidizing most agricultural exports.

Over the past few years, the EU has accepted membership applications from 10 Central and Eastern European countries and from Cyprus. As the implications of expanding the EU became more apparent, it became clear that the EU would have to change existing policies in order to accommodate new alliances.

EU membership for CEE countries—most of which have not had the means to provide much financial support to farmers—would increase their commodity prices, stimulating agricultural production and increasing their reliance on export subsidies. Applying current Common Agricultural Policy (CAP) mechanisms to CEE countries would be very costly to the EU, and an enlarged EU would certainly exceed its export subsidy commitments. The EU is already close to reaching its WTO limits on permitted volume and value of export subsidies, which will continue to decline until 2000. The next WTO round of agricultural negotiations—scheduled to begin in December 1999—is likely to bring further cuts.

EU expansion is not the only force driving agricultural policy reform. The European Commission has published analyses suggesting that under the current CAP, the EU would build significant stocks across all major agricultural sectors, and these stocks would not be exportable because of WTO export subsidy constraints. The buildup of intervention stocks—government purchases from farmers at relatively high support prices—would be large and costly to EU countries.

Until the EU's 1992 reform of the CAP, high internal prices, protected by import restrictions, provided the majority of income support to farmers. The 1992 reform lowered internal prices, supplemented farmers' income with direct payments, and established a land set-aside—with a base rate of 17.5 percent but actu-

ally ranging between 5 and 15 percent—for supply control. Agenda 2000 was designed to build on the 1992 reforms by further reducing prices for some commodities and partially compensating producers through additional direct payments.

Originally proposed in July 1997 by the EU Farm Commissioner, Agenda 2000 was revised by the European Commission in March 1998. Proposals by member countries' farm ministers on March 11, 1999, were less ambitious—e.g., phasing in price cuts—than those made by the Commission, and the package finally approved by the European Council was watered down further, calling for smaller cuts in support prices and delaying the implementation of dairy reforms.

The final Agenda 2000 agreement calls for:

- a 15-percent reduction in grains support prices—down from the original 20 percent—to be phased in over 2 years and partially offset by increased direct payments;
- a 33-percent reduction in direct payments to oilseed producers over 3 years to equal the grains payment in 2002—no phase-in was originally proposed;
- a 10-percent base rate for required land set-aside for arable crops during 2000-06;
- a 20-percent reduction in the support price for beef—compared with 30 percent in the original proposal—to be phased in over 3 years and partially offset by increased direct payments;
- a 2.4-percent increase in the dairy production quota—1.2 percent to be allotted to selected countries over the first 2 years and 1.2 percent to be allotted to the remaining countries over 3 years beginning in 2005;
- a delay in dairy price reform until 2005/06—formerly a 15-percent price decline to be in place by 2003.

For current EU members, the overall impact of Agenda 2000 on *grains* is contingent on world grain prices when the reforms are implemented. The 15-percent cut in support prices is likely to increase grain feeding and make EU wheat com-

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petitive on world markets, eliminating the need for export subsidies. But the proposed grains support price is well above USDA projected world prices for coarse grains. The EU currently has large stocks of coarse grains, and Agenda 2000 is not likely to help significantly reduce them. The reduction in EU *oilseed* payments is likely to cause a slight shift out of oilseed production.

With the *dairy* quota increased 1.2 percent and dairy price reductions postponed until 2005, milk production will increase and the EU will have to continue subsidizing dairy product exports. This could lead to difficulty in exporting cheese, due to the EU's subsidized export limits under the

WTO's 1994 Uruguay Round Agreement on Agriculture.

Despite the reduction in the beef support price, Agenda 2000 is unlikely to cause a significant drop in **beef** production. This is because of the proposed dairy quota increase (much EU beef is a by-product of the dairy herd), and because of the increase in direct payments for beef, which will partially offset the support price decline of 556-euros/ton or about 40 percent of the recent average subsidy. If the support price decline lowers retail beef prices, domestic consumption could increase. With the EU's current support price for beef so far above world market prices, all EU beef exports are subsidized, and proposed beef reforms are not likely

to reduce the EU beef price enough to permit exports above the WTO bound.

Preliminary analysis of the European Commission's Agenda 2000 package indicates that the EU will have to continue export subsidies for most commodities. While the reforms will continue to move the EU away from price support mechanisms, they will not eliminate the EU's surplus production problems. Agenda 2000 is unlikely to have much impact on the U.S. farm sector, but it may cause difficulties for U.S. negotiators in the next round of WTO trade talks. **AO**

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In upcoming issues of *Agricultural Outlook*

Russia

— *the economic crisis and its implications for agriculture*

China

— *how state trading enterprises control the flow of grain*

Commodity Spotlight



USDA Photo by Ken Hammond

Catfish Farmers & Processors to Haul in Higher Revenues in 1999

Over the last 5 years, U.S. consumption of aquaculture products has increased, and the trend is likely to continue. With increasingly stringent catch limitations, the U.S. wild harvest is not expected to significantly expand in the near future. Aquaculture production is poised to fill the gap as retailers demand dependable quality and supply and research rapidly improves the productivity of aquaculture operations.

U.S. catfish production is one of the largest aquaculture industries in the world and is the dominant, and most successful, sector of the industry in the U.S., accounting for over 50 percent of U.S. aquaculture production. From 1990 to 1998, annual production rose from 392 to 599 million pounds, a 53-percent increase. Two years of relatively strong farm-level prices and a forecast for low corn and soybean prices in 1999, which would keep feed costs down, have led to expectations that growers will increase production again this year. An additional increase of 5-7 percent is forecast for 1999, which would bring total production for the year to 630-640 million pounds.

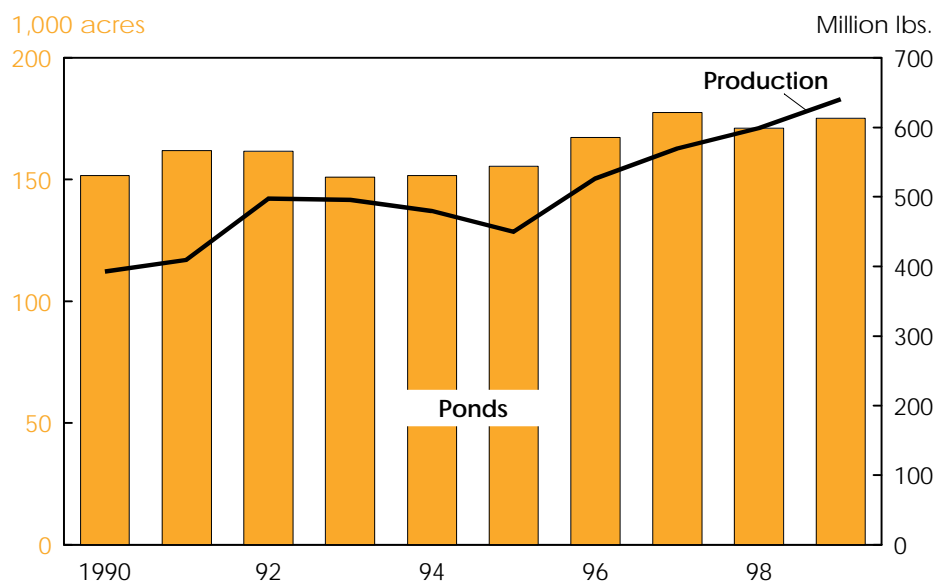
Catfish production is concentrated in the Delta states of Mississippi, Alabama, Arkansas, and Louisiana, primarily

because of warm climates, abundant water, and heavy clay soils for pond construction. In 1998, these four states accounted for 98 percent of total U.S. output, with Mississippi's 65-percent share leading the way.

Increased catfish production has been the result of an increase in both total acreage devoted to catfish ponds and average per-acre production. Estimates of catfish pond acreage have risen from 152,000 acres in 1990 to 171,000 acres in 1998, but this additional pond acreage could account for only 24 percent of the increase in fish production since 1990. The rest of the increase is due to productivity, which climbed 36 percent from 2,580 pounds per acre in 1990 to 3,505 pounds in 1998.

Several factors explain the increase: better disease resistance has led to reduced mortality, improved strains of catfish have provided higher growth rates, and better aeration equipment has both reduced mortality from low oxygen levels and allowed growers to increase stocking densities. Per-acre productivity levels are expected to continue to increase in the future, chiefly through the development of improved strains of catfish. Researchers in Mississippi recently announced a new strain of catfish ready for release that is reported to grow 20-25 percent faster than strains currently used. Not only is the growth rate higher, but the new breed is expected to have a lower feed conversion rate, which means less feed will be needed to produce each pound of edible meat.

U.S. Catfish Production Continues Steady Climb



1999 forecasts.
Economic Research Service, USDA

Commodity Spotlight

An Underwater Feedlot

A catfish farm is similar to any livestock feeding operation. Fingerling catfish are grown in enclosures with special feeds, are carefully monitored for any signs of disease, and are provided an optimum environment until they reach market size. For catfish, the enclosures are ponds, and the optimum environment includes proper water quality and oxygen levels.

The greatest difference between catfish farming and hog or poultry operations is that the production area is underwater and outside, so catfish farmers are faced with problems that don't crop up in other livestock industries. Because the fish are generally out of sight, monitoring their feeding habits and health is much more difficult. In fact, the floating feeds used in the catfish industry were originally developed as a way for farmers to monitor how the fish were feeding; as long as fish are feeding aggressively, a farmer can assume they are relatively healthy.

While almost all hogs and chickens are grown inside specially constructed, climate-modified buildings, open ponds leave catfish operations vulnerable to less than ideal weather conditions and to predators. When water temperatures become too hot or too cold, for example, the growth rates for the catfish decline. Adverse weather conditions can also interfere with feeding or harvesting. Predators, mostly birds, threaten catfish production, and growers are evaluating a number of nonlethal ways of driving birds away from the ponds.

For catfish farmers, as for other livestock producers, feed costs make up a large share of total variable production expenses. An average catfish feed formulation can be up to 75 percent corn gluten feed and soybean meal. The remaining 25 percent will be a combination of other feed ingredients, including wheat middlings, cottonseed meal, fish meal, minerals, and vitamins. With this dependence on feed, the feed-related forces driving expansion and contraction of catfish production resemble those faced in the hog and poultry industries. The market forces these industries face are not identical, however. The catfish industry is chiefly domestic with only small amounts of

From Hatchery to Market: A Glossary of Catfish Terms

Fingerlings/fry: Fish weighing 0.06 pound or less (measured as 60 pounds per 1,000 fish or less).

Small stockers: Fish weighing over 0.06 pound and up to 0.18 pound (measured as over 60 pounds and up to 180 pounds per 1,000 fish).

Large stockers: Fish weighing over 0.18 pound and up to 0.75 pound (measured as over 180 pounds and up to 750 pounds per 1,000 fish).

Small food-size fish: Fish weighing over 3/4 pound and up to 1½ pounds.

Medium food-size fish: Fish weighing over 1½ pounds and up to 3 pounds.

Large food-size fish: Fish weighing over 3 pounds.

Broodfish: Fish kept for egg production, including males. Broodfish produce the fertilized eggs which go to hatcheries. The most desirable individual size is 3-10 pounds or 4-6 years of age.

imports and exports, while the poultry industry must consider export markets, which absorb 18 percent of its production, and the red meat industry must respond to both import and export markets.

From 1993 to 1998, prices for corn and soybean meal have changed dramatically. Prices for corn averaged \$2.22 a bushel in 1993, rose to over \$3.50 a bushel in 1996, and then fell to an average \$2.21 a bushel in 1998, a drop of 37 percent in 2 years. The price of soybean meal over the period followed a similar pattern, averaging \$199 a ton in 1993, rising to \$267 in 1997, then falling sharply to \$163 in 1998. Since corn and soybean meal prices are expected to average even lower in 1999, catfish farmers' feed costs likely will be flat or declining in 1999 while prices they receive from processors are expected to remain stable, enhancing farmers' returns.

Rising productivity per acre and lower feed costs have allowed the catfish industry to maintain returns despite stable prices, which have ranged fairly narrowly between 71 and 78 cents per pound through most of the 1990's, with the exception of 1991 and 1992, when catfish prices fell into the low 60- to upper 50-cent range. Wholesale prices have reflected the same stability, with only limited fluctuations throughout the decade. This price stability, coupled with year-round availability, has made catfish a more attractive product to the food service industry and grocery chains and permitted expansion in production.

Industry to Expand in 1999

Although per capita seafood consumption in the U.S. has been flat or declining for the last decade, the catfish industry has expanded sales at a pace well beyond the U.S. population growth rate. Catfish consumption has grown to account for approximately 7 percent of total fish and shellfish consumption and is expected to increase again in 1999 because of the strong domestic economy.

In response to the forecast for strong economic conditions and low feed prices, catfish farmers are expected to increase production in 1999 about 5-7 percent, while both farm and wholesale prices are expected to remain about the same as in 1998. As a result, farm sales for the catfish industry should approach \$500 million in 1999, up from \$469 million reported for 1998, which was 10 percent higher than in 1997. In 1998 most of the sales increase was attributed to higher sales by Mississippi growers, a situation that is expected to continue in 1999.

Early indications suggest growers are continuing to expand pond acreage, but surveys also show inventory levels only slightly higher than 1998, which may result in some short-term shortages of food-size fish early in the year, although shortages probably will not reach last year's levels when a shortfall caused farm prices to jump 10 cents per pound.

Commodity Spotlight

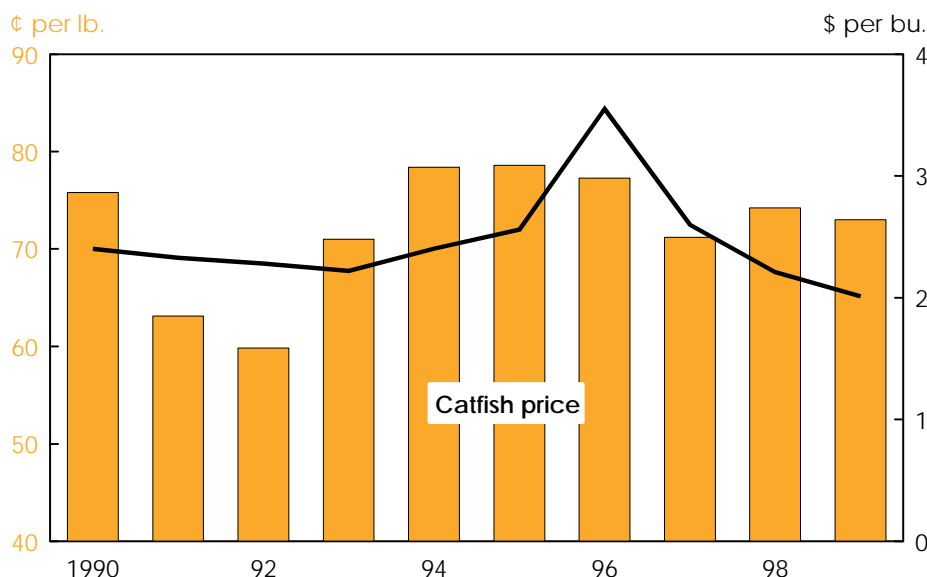
As of January 1, 1999, growers anticipated 175,220 acres of ponds would be used during the first-half of 1999, up 2 percent from the 1998 revised estimate. Most of this increase is attributed to a 5-percent acreage increase in Mississippi. Farmers also reported they would be renovating or building an additional 10,000 acres of ponds in the first half of 1999, an increase interpreted as delayed response to relatively steady farm prices and low feed costs over the last 2 years. The number of growers was also up, with Mississippi experiencing a strong 27-percent increase in farms.

At the beginning of 1999, growers reported their inventories of large and medium food-size fish had declined, but the decline was partially compensated by a marginal increase in the number of small food-size fish in inventory. The total inventory of small food-size fish has been relatively constant for the last 3 years, despite rising inventories reported by Mississippi growers over the same period.

In total, the 248 million food-size fish in current grower inventories would be expected to supply processors for only about 5 months if used at the rate seen in 1998. Thus, the relatively tight supply of food-size fish is expected to exert some upward pressure on prices during the first 3-4 months of 1999. In January and February 1999, processing has been up 3-4 percent and farm prices have risen to 71 cents per pound. Farm prices during this period also will be vulnerable to weather-related disruptions to harvesting and any change in the rate of off-flavor occurrences—periods during which temporary changes in fish flavor preclude marketing.

The inventory numbers for stockers, fish weighing 0.06 to 0.75 pound, were estimated at the beginning of 1999 at 660 million, up 9 percent from the previous year. Although a strong increase from 1998, this inventory level is still 27 percent below the 755 million reported at the start of 1997. How soon these stockers reach food size will be an important factor in determining whether growers experience a strong increase in prices in the first half of 1999 and if so, how long those higher prices will last.

U.S. Catfish Price to Remain Stable While Feed Costs Decline



Calendar-year farm prices for catfish and corn. 1999 forecasts.

The reported inventory of fingerlings, fish weighing less than 0.06 pound, was down 2 percent from 1998, but inventories in the four major states, where most of the processing plants are located, nearly matched the previous year at 921 million fish. These very small fish will be the chief source of food-size fish supply during the second half of 1999. Because fingerling inventories were about even with the previous year, the decline in prices as these fish reach market size may not be as severe in the second half of 1999 as it was in 1998. Broodstock inventory levels also were similar to those of the previous year, so egg and fingerling production during the first half of 1999 is expected to be roughly similar to 1998.

As processors rapidly move through the inventory of available food-size fish, farm prices for food-size fish are expected to strengthen quickly in the first quarter of 1999, with grower inventories of food-size fish near the previous year's levels and processor inventories of finished product down 9 percent at the start of 1999. Sales to processors in the first 2 months of 1999 totaled 98 million pounds, up 3 percent from a year earlier. Farm prices are expected to soften, however, in the second quarter of 1999, following the seasonal increase in consumption associated with Lent and as the large inventory of stockers begins to reach food size.

Prices for stockers and fingerlings are also expected to rise slightly in 1999, and stocker and fingerling producers are likely to see expanded sales. Food-size producers are expected to increase the size of their operations and possibly the density of stocking in existing ponds as a result of somewhat low starting inventories, expected strong processor sales in first-quarter 1999, and expectations of continued low prices for corn and soybeans.

Gross processor revenues are expected to increase again in 1999. Total sales are expected up 5-7 percent, mirroring the expected increases in farm production. Processors' prices, however, are expected to show little change from 1998, as a result of large supplies of competing meat. Stable prices and increased sales should result in an increase in catfish processor revenues for the fifth year in a row. For 1998, processor sales increased 8 percent to 281 million pounds, and in combination with a 2-percent increase in average price, boosted processors' gross revenues by 10 percent—\$85 million—to just under \$650 million. Processor sales in 1999 are expected to be dominated by sales of fileted products. **AO**

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Farm Finance



Farmers to Cut Borrowing Amid Income Uncertainty

In 1999, after 7 years of debt expansion, farm-sector borrowing is expected to decline by \$1.3 billion. Low prices for many key agricultural commodities, and significant weather and disease problems in some regions, have both farmers and their lenders concerned about farmers' ability to repay existing loans and qualify for new production loans. While net cash farm income has been strong in recent years and 1999 is forecast to be above the 1990-98 average, last year saw increasing variability in farm-sector economic performance by region and commodity.

Debt Level Still Relatively High

Since yearend 1992, total farm business debt has grown 22.5 percent—\$31.3 billion—with nearly half of that increase coming in 1997-98. Farm business debt—real estate plus nonreal estate loans—is estimated at \$170.4 billion at yearend 1998, up 3 percent compared with a 6-percent increase in 1997. But a projected decline of 0.5 to 1 percent in 1999 will reduce total farm debt to about \$169 billion, still the second-highest debt level since 1985. The decline in part reflects a change in farmers' outlook toward debt. Both farmers and lenders learned during

the farm financial crisis of the 1980's that borrowing cannot substitute for adequate cash flow and profits.

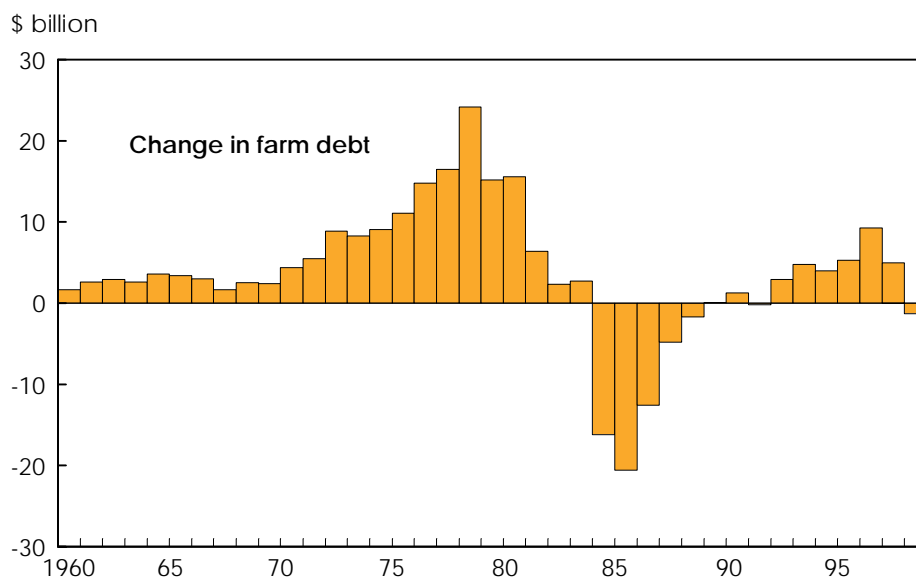
The 1999 forecast reflects a relatively low incidence of farmers borrowing their way out of cash-flow problems, as well as the

likelihood of fewer new capital investments. Adequate levels of working capital as well as additional Federal funds made available by legislation passed in 1998 are also helping to reduce loan balances and hold down new borrowing. Given the expectation of lower prices and income in 1999, as well as continuing uncertainty about economic recovery in nations that are major importers of U.S. farm products, farmers are likely to remain cautious about debt use.

Farm income is projected to decline in 1999—net cash income by 6 percent and net farm income by 7 percent. In 1998, incomes were lower for many farmers—particularly those specializing in corn, wheat, soybeans, and hogs—as continued high levels of production for many farm commodities were more than offset by substantial price declines. This year promises to be financially challenging for these farmers. Although numerous farm subsectors were profitable in 1998—e.g., broilers, cattle, vegetables, fruits, nursery and greenhouse products—and have a strong outlook for 1999, subsectors with losses will outweigh those with gains.

Favorable trends in the general economy should continue to maintain stable interest rates, and farm-sector equity will rise by

Farm Debt to Head Down in 1999 After Rising Since 1993



1999 forecast.
Economic Research Service, USDA

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\$16.9 billion, primarily because of rising farmland prices. But neither higher equity nor stable—or even lower—interest rates may be sufficient to offset the effect of lower incomes. Even if farmers lower their credit use in 1999, USDA's Economic Research Service is forecasting that lower income will cause farmers' use of debt repayment capacity—the maximum debt that could be repaid from current income—to rise to 57 percent in 1999, up from 55 percent in 1998 and 53 percent in 1997.

Nonreal Estate Loans Grow Faster

Four institutional lenders—commercial banks, the Farm Credit System (FCS), USDA's Farm Service Agency (FSA), and life insurance companies—accounted for 77.5 percent of all farm business loans outstanding at yearend 1998, with the remaining share held by individuals and nontraditional lenders, primarily input and machinery suppliers, cooperatives, and processors. Except for the FSA, farm lenders' outstanding loan volume increased in calendar year 1998.

Agricultural lenders generally found the demand for agricultural credit strengthened more for nonreal estate than for real estate loans in 1998. Total loan volume outstanding increased 3 percent, with nonreal estate loans up 3.4 percent and real estate loans up 2.6 percent. This was the sixth straight year that growth in nonreal estate loans exceeded growth in real estate loans, but the volume of outstanding real estate debt still surpasses nonreal estate debt—\$87.8 billion compared with \$82.8 billion.

Nonreal estate business loans outstanding increased \$2.72 billion in 1998, some 55 percent of the 1998 rise in farm debt. Nonreal estate loans—mainly short- to intermediate-term loans—are typically used for farm inputs, equipment, and machinery. FCS outstanding nonreal estate loans increased \$597 million—3.9 percent—while commercial banks' rose \$1.51 billion—3.6 percent.

Despite adequate FSA loan authority in fiscal 1998, total FSA nonreal estate loans outstanding decreased 4.1 percent in calendar 1998 to \$4.1 billion and are

forecast to be about the same level in 1999. However, although total direct FSA obligations (operating, ownership, and emergency) declined to \$739 million, down 0.8 percent from fiscal 1997, direct operating loans alone—funds used primarily to meet production expenses—were up 8 percent over fiscal 1997, reaching \$557 million.

In 1999, nonreal estate loans outstanding should decrease about 0.5 percent based on production and expense projections. Total planted acres for eight major field crops—corn, sorghum, barley, oats, wheat, rice, cotton, and soybeans—are projected to decline 2.1 percent to 250.7 million acres. Since these eight crops accounted for virtually all the fluctuations in field crop acreage in recent years, input quantities will likely stay near or slightly lower than 1997 and 1998 levels, assuming no major change in production practices.

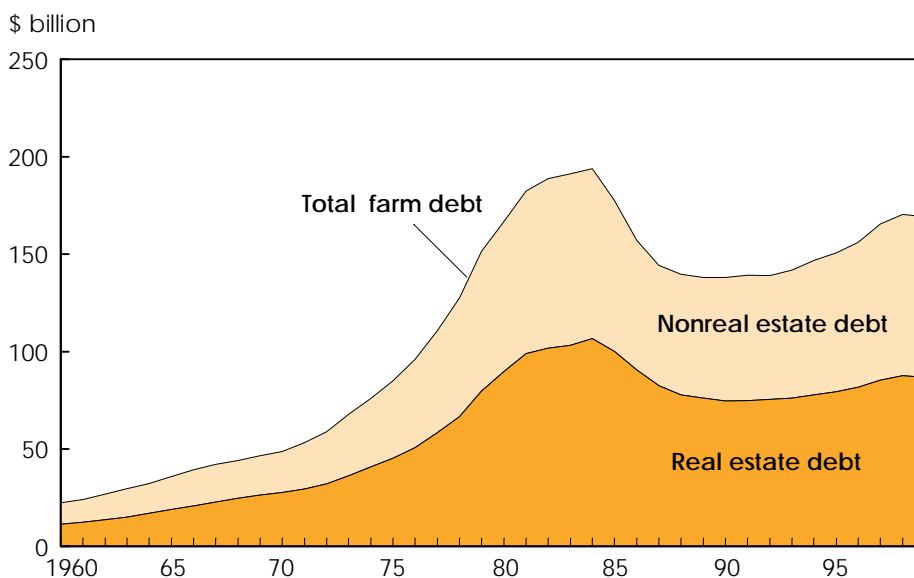
With production, input quantities, and input prices projected to remain fairly stable, farmers' production expenses in 1999 are expected to total \$186.1 billion, up 0.5 percent over 1998, but still 1.3 percent below total 1997 production expenditures. These decreases relative to 1997 are the first significant declines in production expenses since the 6-percent declines in

1985 and 1986. Cash production expenses are forecast to increase only 0.4 percent in 1999, still 1.7 percent—\$2.9 billion—below the 1997 level, and farm-sector interest expenses are anticipated to decline 3.1 percent to \$13.7 billion, a drop of \$431 million.

Reduced machinery sales in 1999 will also dampen the demand for short- and intermediate-term farm loans. Unit sales of farm tractors, combines, and other farm machinery continued the strong trend of recent years into 1998 before dropping off significantly in the second half of the year. The overall farm machinery sales forecast for 1999 is for a significant decline across a range of equipment. The Equipment Manufacturers Institute (EMI), for example, projects lower sales for many equipment categories, including declines of 8 percent for 2-wheel-drive tractors, 17 percent for 4-wheel-drive tractors, and 15 percent for self-propelled combines.

Farm real estate loans outstanding increased \$2.2 billion in calendar 1998. Commercial banks' real estate loan portfolios, holding 31 percent of total real estate debt, increased \$1.4 billion—5.7 percent—marking the 16th consecutive year of gains in commercial bank real estate loans. FCS real estate loans were

Nonreal Estate Debt Now About Half of Farm Debt



1999 forecast.

Economic Research Service, USDA

Farm Finance

up \$1 billion—3.7 percent—and life insurance companies' real estate loan portfolios gained about \$220 million—2.3 percent. However, FSA real estate loans dropped \$247 million—5.7 percent—and loans by individuals and others fell \$187 million—1 percent.

For 1999, farm real estate loans outstanding are expected to decrease about 1 percent, in part reflecting reduced demand for mortgage loans (real estate credit) from smaller increases in farmland prices. U.S. farmland values have risen for 13 straight years (1987-99 inclusive). Per-acre U.S. farmland values increased an estimated 5.2 percent in 1997 and 1.8 percent in 1998, but are expected to slow to 1.5 percent in 1999, partly because of lower expected returns from farming. Falling commodity prices may disproportionately affect land values in areas specializing in commodities that are experiencing price declines.

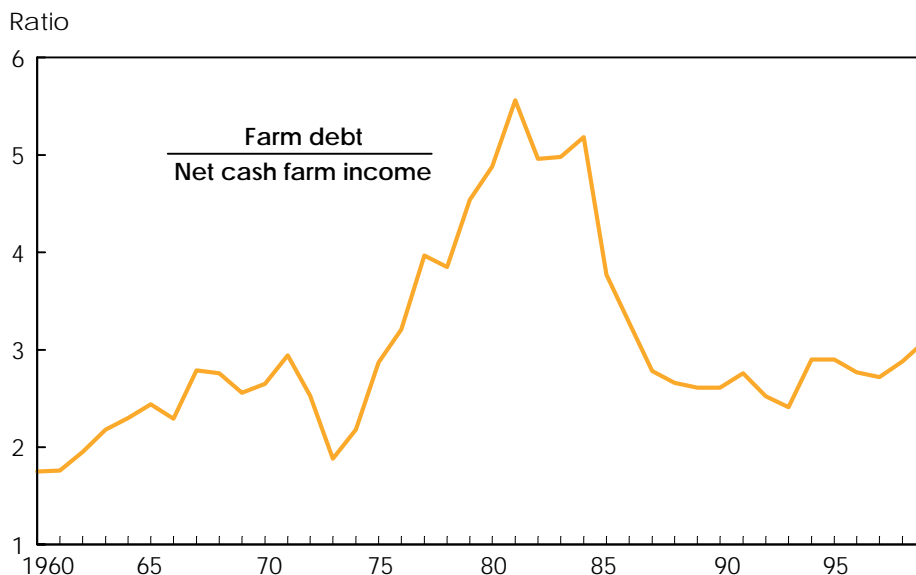
Lenders Remain Strong, But More Cautious

Continued growth in loan demand contributed to the robust financial condition of most commercial agricultural lenders in 1998, and these lenders are in a strong position in 1999. However, the composition of loan portfolios and changes in loan volume vary among the four traditional farm lender categories.

Commercial banks are the largest source of farm business credit, accounting for 41 percent of all farm loans outstanding in 1998 and nearly 60 percent of 1998 growth in total farm debt outstanding. Commercial banks' total outstanding farm loan volume reached \$69.9 billion in 1998, up 4.4 percent from 1997.

The FCS—a collection of federally chartered, borrower-owned credit cooperatives that lend primarily to agriculture—held 25.8 percent, or \$43.9 billion, of total farm business loans at the end of 1998, up 3.8 percent from a year earlier. The FCS

U.S. Farm-Sector Debt Remains Manageable



1999 forecast.

Economic Research Service, USDA

accounted for 32.5 percent of the increase in all farm loans outstanding in 1998. FCS nonreal estate loans have made a strong showing in the past 5 years, gaining 50.3 percent during 1993-98. The FCS real estate loan market share reached 32.1 percent, edging up for the third consecutive year after a decade of decline from the 43.7-percent share held in 1984.

Direct loans from FSA, the government "farm lender of last resort," accounted for 4.8 percent of all farm business loans at yearend 1998, down from 5.2 percent in 1997. FSA's total direct loans outstanding decreased 4.9 percent in calendar 1998 to \$8.2 billion, with real estate debt down more than nonreal estate debt.

Lenders have grown more cautious in extending agricultural credit. While the current situation does not warrant the label of crisis, the farm loan portfolio losses of the early to mid-1980's are a recent memory. Lenders in 1998 were able to manage most farm loan repayment challenges given relatively healthy farm

incomes in recent years and additional Federal financial assistance. The 1999 farm financial situation is not expected to lead to unmanageable deterioration in lenders' portfolios. But if conditions that materialized in the agricultural sector in 1998 persist—i.e., lower farm prices for key commodities, coupled with uncertainties about the duration of the downturn—lenders will increasingly face requests for renewal of poorly performing loans and for new loans to customers who are less creditworthy. Given a possible drop in income and tighter credit standards, some farmers would need to reconsider any plans to use debt capital.

During the downturn of the 1980's, farm lenders learned that credit should not be used as a replacement for lost earnings, and that earnings, not asset inflation, assures debt repayment. Losses to both lenders and farmers made it clear that farm businesses need a positive cash flow in order to manage debt obligations successfully.

Today, despite low commodity prices, lenders appear confident about the majority of their farm customers. Most farmers are not as heavily leveraged (indebted) as they were 10-15 years ago. Veteran lenders cite significant differences from the 1980's, including lower interest rates, greater

This article was drawn from *Agricultural Income and Finance*, an Economic Research Service report.

Full report (ERS-AIS-71) is available on the ERS website at <http://usda.mannlib.cornell.edu/reports/erssor/economics/ais-bb/1999/>

Farm Finance

owner equity, better credit analysis and monitoring methods, and improved management skills of producers. Lenders, on sounder financial footing themselves, have greater flexibility to work with financially stressed customers to restructure debt and provide credit for operating expenses.

The farm financial crisis of the 1980's altered the agricultural lending environment. A general enhancement of loan oversight resulted in tighter regulation for all types of agricultural lenders, and lender regulators now insist that banks follow strict guidelines for approving borrowers and that loans conform to sound banking practices. Bank examiners currently report few problems with underwriting practices for agricultural loans. They do, however, continue to monitor the extent to which banks' agricultural loan portfolios are tied to major crops affected by declining payments under the 1996 Farm Act, as well as the usual performance measures of banks' soundness, such as capital and asset levels.

As the banking industry continues to move toward reducing lenders' risk, the ongoing changes are putting added pressure on producers. Loan application procedures are becoming more complex, and loan approval may be harder to obtain because lenders' cash flow projections based on expected commodity prices indicate some farmers may have added difficulty meeting debt service requirements.

Can Lenders Supply Adequate Credit?

Readily available and reasonably priced credit facilitates the high-technology production methods necessary for U.S. producers to compete in global markets. Currently, overall availability of funds is not a problem, since agricultural lenders have more loan money on hand than they can profitably lend to the pool of credit-worthy borrowers made smaller by current short-term price projections. Clearly, any credit crunch that borrowers may perceive in agriculture is not from reduced availability of funds but from recent changes in methods for loan processing and credit analysis—changes that were implemented in response to the current risk environment surrounding agricultural credit but based on lessons from the past.

The FCS is well positioned to supply farmers' future credit needs. It has demonstrated financial strength in recent years as it underwent massive restructuring of its organization and procedures. The FCS has access to national money markets and can provide needed farm credit at competitive rates. In 1999, FCS farm business debt is forecast to decrease about 2.2 percent, with mortgage debt expected to decline 1.7 percent and nonreal estate debt to decline about 3 percent. But FCS has gained farm loan market share the past 4 years (1995-98) after a gradual loss of share the previous 10 years.

The recent growth in commercial bank farm loan demand is reflected in agricultural banks' average loan-to-deposit ratio, which grew to 72.5 percent in the year ending September 30, 1998, up from 57 percent 6 years earlier. High loan-to-deposit ratios do not necessarily constrain the origination of new loans, since commercial banks have many nondeposit sources of funds, and profitable, well-managed banks often have very high loan-to-deposit ratios. Although rural banks make considerably less use of nondeposit funds than do banks headquartered in metropolitan areas, banks in most rural markets today can access nonlocal sources of funds. Overall, most banks have adequate funds available for agricultural loans, although a few report a shortage of loanable funds.

Requests for FSA loans is one indicator of farm financial health, typically increasing when farm financial conditions deteriorate. The pace of applications for FSA assistance and loan obligation volume in the first quarter of fiscal 1999 was up from the same quarter a year earlier. FSA's fiscal 1999 total loan authority—covering direct and guaranteed loans for ownership, operating, and emergency purposes—is up 17.7 percent over fiscal 1998 obligations. Federal funding for FSA-guaranteed loans—69 percent of FSA's fiscal 1999 authority—continues to be considerably greater than the amount authorized for direct loans to operators of family-sized farms unable to obtain credit elsewhere. In fiscal 1998, FSA issued loan guarantees—for loans made by commercial and cooperative lenders—totaling \$1.44 billion, down 8.8 percent from a

year earlier. FSA's fiscal 1999 authority for loan guarantees is up 13.7 percent.

FSA authority to issue direct loans (ownership, operating, and emergency) is up 27.4 percent for fiscal 1999. On February 26, 1999, the Administration requested a supplemental appropriation that would include authority for \$105.6 million to support additional FSA farm loans of \$1.1 billion, 51.1 percent for direct loans. Passed by the House and Senate, this legislation is pending in conference.

The general financial health of agriculture today is stronger than in the mid-1980's when the sector last experienced significant financial stress. Overall, agricultural borrowers are less leveraged and more liquid, and those who survived the 1980's are probably better financial managers today. Clearly, however, agricultural lending is embarking on an era of increased uncertainty that translates into more stress for specific portfolio segments. Many of the contributing factors are beyond the control of individual farmers and lenders, and certain critical factors, such as weakened ability of foreign customers to buy U.S. agricultural products, may not go away soon. **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.

May

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

*Release of summary, 3 pm

**Available electronically only

Risk Management



Risk Management Agency

Recent Developments in Crop Yield & Revenue Insurance

As policymakers consider strengthening the farm safety net, crop insurance is once again in the spotlight. Among the questions being asked: How well does the current array of crop insurance products and coverage levels match the risk management needs of producers? How much does insurance help producers in extended periods of low prices or with multiple-year crop losses? How can the government work effectively with the private sector to develop and deliver insurance?

Although overall participation has declined from its peak in 1995 and questions remain about the adequacy of coverage, crop insurance, which includes yield-based as well as revenue insurance products, is used by many growers. In 1998, growers paid about \$900 million in crop insurance premiums for about \$28 billion in guarantees on about 180 million acres of crops. About two-thirds of planted acreage of corn, soybeans, and wheat was covered by crop insurance.

Crop insurance provides protection from a broad range of perils that can lead to yield or revenue shortfalls. The type of protection depends on the type of insurance. For instance, multiple-peril crop insurance (MPCI) protects against yield shortfalls

that are due to drought, flooding, frost, plant disease, insect infestation, and other natural hazards beyond a grower's control. Revenue insurance provides a degree of price protection—not just yield protection as under MPCI—covering sharp drops in expected revenue, which may result from yield or price declines or a combination of the two.

Although growers obtain insurance through private companies and their agents, the Federal government plays a prominent role in the provision of crop insurance. During 1995-98, USDA's Risk Management Agency (RMA), which administers programs of the Federal Crop Insurance Corporation (FCIC), has spent about \$1.2 billion per year, on average, for premium subsidies, administrative and operating subsidies, and net underwriting losses. RMA promotes crop insurance participation through educational and other outreach activities and—along with the insurance companies—develops new products. FCIC and RMA also oversee the provision of crop insurance, setting and approving premium rates and policy provisions, ensuring that companies can cover potential underwriting losses, and approving privately developed insurance products for subsidies and underwriting protection.

Crop Insurance: A Widening Array of Coverage

Since the early 1990's, the variety of insurance products, guarantee levels, and crops included in the Federal crop insurance program has grown substantially. Insurance product choices have expanded from a single offering—individual-farm yield insurance called Actual Production History-Multiple Peril Crop Insurance (APH-MPCI)—to include area-yield insurance and a variety of crop revenue insurance products. The range of guarantee levels has been enhanced by pilot programs to increase maximum guarantees available in some areas of the country and by the provision, at low cost to producers, of a minimum level of insurance coverage called CAT (short for catastrophic). The list of crops for which insurance is available has grown from about 50 in the early 1990's to more than 70 currently, including several types of fruit and nut trees, grapes, nursery stock, and rangeland.

In addition to the growing array of coverage options available under the Federal programs, private insurance companies, agents, and brokers have developed a variety of supplemental insurance products and have bundled crop insurance with other risk management products. Examples of supplemental products, for which producers pay additional premiums, include those that increase the price at which insurance indemnities would be paid. Purely private insurance against hail and fire damage continues to be widely available. In 1998, producers in 46 states paid about \$550 million in crop-hail premium. About 60 percent of the crop-hail coverage was for corn and soybeans.

While traditional APH-MPCI still accounts for the bulk of the Federal crop insurance business, new types of insurance, particularly revenue insurance, have attracted considerable interest. Revenue insurance products—*Income Protection* and *Crop Revenue Coverage*—first became available for a few crops in selected areas in the 1996 crop year. *Revenue Assurance* was added in the 1997

This article continues *Agricultural Outlook's* series on risk management.

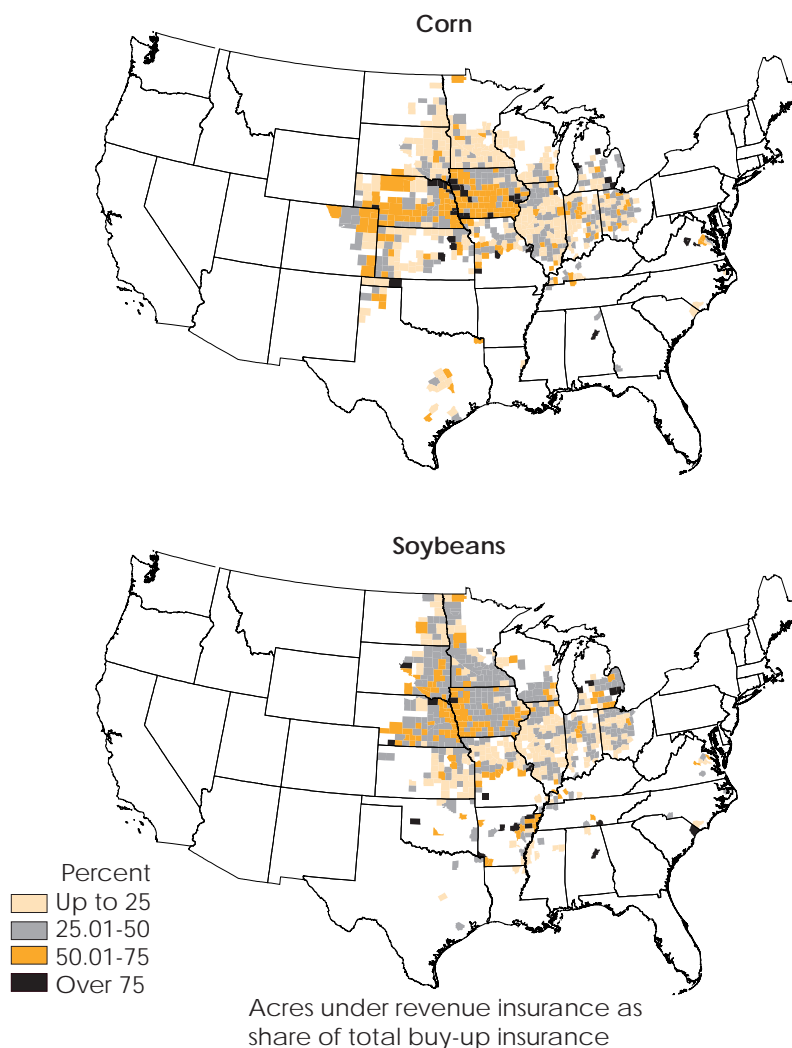
crop year and *Group Risk Income Protection* and *Adjusted Gross Revenue* were added for the 1999 crop year. Since the introduction of revenue insurance, more crops and more areas have been added, and revenue insurance has come to cover a substantial portion of insured acreage in some areas. Not all insurance products, however, are available in all areas.

Revenue insurance has been especially popular for corn and soybeans, crops that were the initial focus of the privately developed Revenue Assurance and Crop Revenue Coverage. In 1998, revenue insurance products accounted for about one-third of the corn and soybean acreage insured above the CAT level. Revenue insurance covered more than 50 percent of corn acreage insured above the CAT level in Iowa and 45 percent in Nebraska, and reached nearly 50 percent of the above-CAT insured acreage for soybeans in these two states. Although wheat accounts for a smaller portion of the overall crop revenue insurance business than corn or soybeans, revenue insurance policies cover a considerable share of wheat acreage in several states. In Kansas, Michigan, Nebraska, and Texas, more than one-quarter of wheat acreage insured above the CAT level was covered by revenue insurance in 1998.

Revenue insurance choices continue to expand, with two new products being introduced in 1999. Group Risk Income Protection (GRIP) adds a revenue component to the Group Risk Plan (GRP) area-yield insurance. Coverage is based on county-level revenue, calculated as the product of the county yield and the harvest-time futures market price. GRIP is available for corn and soybeans under a pilot program in selected counties in Iowa, Illinois, and Indiana where GRP is offered.

Adjusted Gross Revenue (AGR), the second new revenue insurance product, offers coverage on a whole-farm rather than on a crop-by-crop basis. AGR bases insurance coverage on income from agricultural commodities reported on Schedule F of the grower's Federal income tax return. AGR targets producers of crops—particularly specialty crops—for which individual crop insurance programs are not presently available. Producers who

In Many Counties, Revenue Insurance Accounts for More Than A Quarter of the Area Insured at Buy-Up Level



Total includes all yield and revenue insurance above the basic or catastrophic level. Shaded areas are counties with at least 1,000 acres of the crop covered by buy-up insurance in 1998 (revenue and yield).

Source: Estimated by ERS from USDA Risk Management Agency data.

Economic Research Service, USDA

obtain AGR must obtain crop-by-crop coverage to insure crops for which such individual plans are available. In these cases the AGR whole-farm liability and premium are adjusted. AGR is being offered as a pilot program in selected counties in Florida, Maine, Massachusetts, Michigan and New Hampshire.

In addition to the growth in variety of insurance plans, the range of insurance guarantees, which are calculated as the

product of expected yield or revenue and percentage coverage level, has been expanded. Crop insurance coverage levels—percentages of expected yield—generally range from 50 percent for CAT to a maximum of 75 percent, increasing at 5-percent intervals. Under 75-percent coverage, for example, the grower would absorb up to a 25-percent loss in expected yield or revenue, while the insurer would pay for losses above 25 percent.

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A Brief Legislative History of Crop Insurance

1980—Federal Crop Insurance Act

- * Crop insurance intended to replace disaster payments as primary form of crop yield risk protection
- * Insurable crops and areas greatly expanded
- * Premium subsidy instituted, at up to 30 percent of total premium
- * Private insurance companies and agents may sell and service crop insurance

1988-94—ad hoc disaster assistance

- * Enacted each year partly in response to low insurance participation.
- * Disaster assistance recipients were required to obtain crop insurance in the subsequent year.

1990—Food, Agriculture, Conservation, and Trade Act (1990 Farm Act)

- * Premium rate increases mandated to reduce excess losses
- * Target loss ratio established for all crop insurance
- * Actions to control fraud are mandated
- * Private insurance companies to bear increased share of underwriting risk
- * FCIC authorized to reinsure and subsidize privately developed products

1994—Crop Insurance Reform Act

- * Restrictive legislative procedures instituted for enacting disaster assistance
- * Participants in farm programs must obtain crop insurance
- * Catastrophic coverage level (CAT) introduced
- * Premium subsidies for coverage levels above CAT are increased
- * Non-insured Assistance Program (NAP) created for crops not covered by insurance

1996—Federal Agriculture Improvement and Reform Act (1996 Farm Act)

- * Requirement that participants in farm programs obtain crop insurance is ended
- * Pilot revenue insurance program is mandated

1998—Emergency assistance, included in 1999 Agricultural Appropriations Act

- * Crop-loss disaster assistance payments to producers authorized for single-year (1998) or multiple-year (3 or more years between 1994 and 1998) crop losses; payments slightly higher for those who had obtained crop insurance
- * Additional premium subsidies authorized for buy-up coverage in 1999, limited to total of \$400 million
- * Recipients of emergency assistance who did not have 1998 crop insurance must obtain crop insurance, where available, for 1999 and 2000 crop years

At the high end, FCIC/RMA has increased the maximum coverage level available for some crops in some areas, giving growers the option of purchasing insurance at higher coverage levels, at higher premium costs. At the low end, the provision of low-cost CAT coverage has already increased insurance participation.

Under pilot programs in 1999, FCIC/RMA increased the maximum coverage level available for selected crops in selected areas from the current 75 percent to 85 percent. One pilot targeted areas where many growers have historically insured at the maximum level and where losses have been infrequent; another focused on areas

where recent low yields may have reduced the yield or revenue history on which guarantees are calculated. The maximum coverage level for individual yield and revenue coverage was raised to 85 percent in pilot programs for corn and soybean growers in 66 counties in Illinois, Indiana, and Iowa and for wheat growers in 20 counties in Idaho, Oregon, and Washington. In addition, the maximum coverage was increased to 85 percent for spring wheat and barley in Minnesota, North Dakota, and South Dakota. Higher coverage levels are more costly; the premium rate for 85 percent coverage is generally about 60 percent higher than the premium rate for 75 percent coverage, and the additional premium is unsubsidized.

While maximum coverage level has been a concern of some growers, others have focused on the effectiveness of the CAT coverage level. CAT is a low coverage level—50 percent of expected yield indemnified at 55 percent of expected price—for which producers pay a flat fee of \$60 per crop. Despite the low cost of CAT to producers, many have questioned whether it provides valuable insurance coverage. The yield trigger, 50 percent of expected yield, has been criticized as too low to provide a benefit except in rare cases, and the maximum possible indemnity, less than 30 percent of the expected value of a crop, has been criticized as inadequate. However, CAT was never intended to provide substantive coverage, just benefits roughly the same as those under previous ad hoc disaster programs.

CAT is a basic coverage level that was introduced under the Federal Crop Insurance Reform Act of 1994. The crop insurance reform, which required participants in farm programs to obtain crop insurance and which raised premium subsidies for coverages above CAT, was designed to increase crop insurance participation and reduce the need for ad hoc disaster assistance. In 1995, the first year of reform, total insured acreage doubled to about 80 percent of eligible acres, and CAT accounted for the bulk of the expansion.

Since implementation of the 1996 Farm Act, which significantly changed farm programs and eliminated the crop insurance requirement, CAT participation has dropped dramatically. While overall

insured acres have declined about 15 percent (average net acres insured for 1997 and 1998, compared with 1995 and 1996) and acres insured above the CAT level have increased by about 7 percent, CAT acres have dropped about 40 percent.

The Value of Crop Insurance

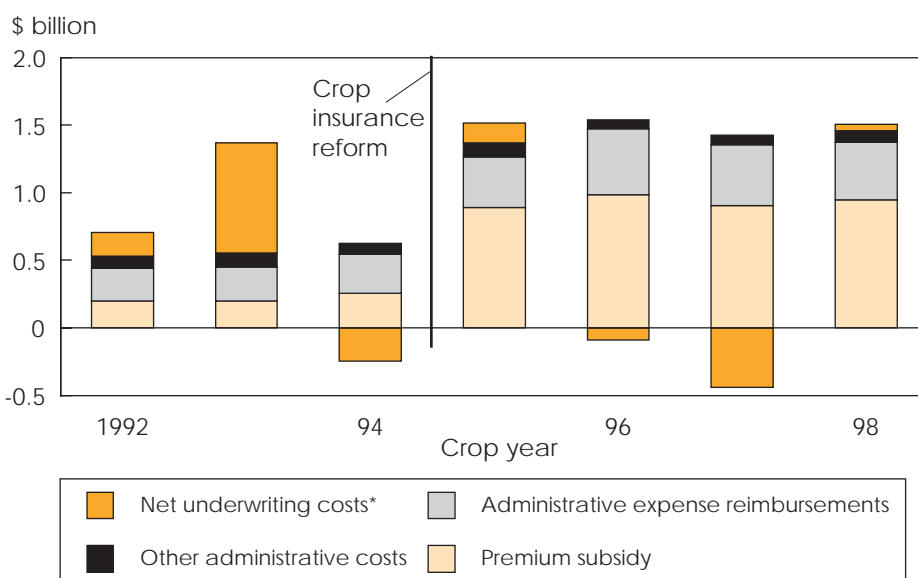
The current array of crop insurance products is designed to protect against shortfalls in yields or revenues that occur during a single growing season. Insurance guarantees are set at planting, based on expectations about the eventual levels of yields or revenues. By reducing or eliminating the chances of sharply lower income as a result of losses from a particular commodity, crop insurance can be a valuable risk management tool. The risk protection that it provides can, for example, facilitate access to operating loans by offering some financial security to a lender.

For insurance purposes, expected yields are based on yield histories, and for individual farm coverage, the annual expected yield for a crop is usually calculated as the average yield over the previous 4-10 years, depending on data availability. While in most cases these actual production histories provide reliable indications of the likely yield under normal conditions, they can produce distorted pictures.

If yields for a farm over a 4- to 10-year period differ significantly from yields based on a longer history, premiums will not be consistent with long-term expected losses. If yields are too high due to a few good years, the premium will be lower than needed over the long term and vice versa. By the same token, if recent historical yields differ from current expectations of the grower, he or she may consider the guarantees too high or too low.

Under crop insurance rules, expected yield, and hence insurance guarantee, can fall if a producer's yield declines over time. This potential for declining guarantees has led to questions about the effects of repeated crop losses. In the Northern Plains, for instance, several years of poor weather and plant diseases have hampered crop production for some but not all producers, reducing the historic yield and leading to complaints that insurance based

Government Costs of Federal Crop Insurance Increased Following 1994 Reform



*Appears as a negative value if premiums received exceed indemnities paid (i.e., a gain rather than an expense). Other administrative costs include Risk Management Agency salaries and operating expenses.

Source: Risk Management Agency, USDA.

Economic Research Service, USDA

on actual production history no longer offers effective yield guarantees.

FCIC/RMA authorized a pilot program in early 1999 that may help some growers overcome the declining guarantee problem. In exchange for a higher premium, growers can choose to use 90 or 100 percent of a transitional or T-yield instead of the recent actual yields on the farm as the basis for the insurance guarantee. (T-yields are based on Farm Service Agency program or county-level yields and other data and are usually used in the Federal crop insurance program to set insurance guarantees when a producer is unable to provide records of farm-level actual production history.) This "Yield Floor Option" is available in 1999 for barley and spring wheat in Minnesota and North and South Dakota.

In addition, provisions for multiple-year crop loss payments are included in the Crop Loss Disaster Assistance Program, implemented under the 1999 Agricultural Appropriations Act. Under the disaster program, producers may apply for payments from USDA in addition to crop

insurance indemnities they may have received. The program allows producers to file for payments based on either a single loss in 1998 or on multiple crop losses between 1994 and 1998. Although producers who did not have crop insurance may also receive benefits, those with crop insurance would receive greater payments. And all producers receiving benefits who did not have crop insurance in 1998 must obtain crop insurance, where available, in 1999 and 2000.

Crop insurance, particularly revenue insurance, provides protection from sharp drops in prices over each growing season. The products provide little protection against declines in prices that occur between growing seasons and over several seasons. Prices, or formulas for establishing prices, are determined when insurance guarantees are set at planting. In the case of MPCCI yield coverage, RMA estimates an expected price. Revenue coverage uses prices of futures contracts with delivery dates near harvest time. Both of these procedures keep the value of insurance consistent with the expected value of the crop.

Risk Management

How Federal Crop Insurance Is Delivered

USDA's Risk Management Agency (RMA) is charged with the administration of crop insurance programs for the Federal Crop Insurance Corporation (FCIC). FCIC/RMA regulates and promotes insurance program coverage, sets standard terms—including premium rates—of insurance contracts, ensures contract compliance, and provides premium and operating subsidies. Crop insurance policies are delivered—sold, serviced, and underwritten—by private insurance companies. Insurance companies also develop new insurance products that are approved for subsidies and reinsurance by FCIC and offer private coverages (without FCIC support) that supplement Federal crop insurance.

About 18 insurance companies currently deliver crop insurance. The companies' insurance portfolios vary in size and scope. The four companies with the largest amounts of crop insurance account for about two-thirds of the volume of total premium, and each delivers insurance in about 40 states. While these companies have large and widely spread portfolios, other companies deliver smaller amounts of crop insurance over smaller areas. Most of the companies with small crop insurance portfolios deliver in five or fewer states, and tend to operate in low-risk states.

Companies compete for crop insurance business through insurance agents who sell and service the policies. Most of the nation's 18,000 crop insurance agents are independent agents who may sell insurance for more than one company. Others are captive agents, selling for only one company. An agent is usually paid a sales commission by a company proportional to the premium of the policy sold. Loss adjusters for claims are employees or contractors of the insurance companies.

Insurance underwriting gains or losses arise as total premiums (producer premiums and premium subsidies) are used to offset indemnities paid. In the crop insurance program, private companies share the underwriting risk with FCIC by designating their crop insurance policies to risk-sharing categories, called reinsurance funds. Because each of the funds allows different levels of risk sharing—potential underwriting losses when indemnities exceed premiums and gains when premiums exceed indemnities, the proportion of losses paid or gains earned varies by government fund.

Companies that qualify to deliver crop insurance must annually submit plans of operation for approval by FCIC/RMA. A plan of operation provides information on the ability of the company to pay potential underwriting losses and on the allocation of the company's crop insurance business to the various risk sharing categories or reinsurance funds.

Based on the policies designated to each reinsurance fund, companies retain or cede to FCIC portions of premiums and associated liability (potential indemnities). FCIC assumes all the underwriting risk on the company-ceded business and various shares of the underwriting risk on the retained business, determined by the particular category and level of losses. Companies can further reduce their underwriting risk on retained business through private reinsurance markets.

In addition to underwriting returns, the companies are paid a subsidy by FCIC for administrative, operating, and loss adjustment costs. The rates of administrative and operating subsidy vary by the type of crop insurance and level of coverage and are applied to the total premium of each type of insurance sold. The levels of administrative and operating subsidy and the terms of the underwriting risk-sharing are specified in the Standard Reinsurance Agreement (SRA), which applies to all companies delivering FCIC-reinsured policies. The current SRA (1998) specifies the subsidy for APH-MPCI at the CAT level at 11 percent (for loss adjustment). For buy-up APH-MPCI and similar coverages, the administrative and operating subsidy is 24.5 percent of total premium; 22.7 percent for GRP; and 21.1 percent for most crop revenue products.

Multiple-year insurance contracts may offer a means of moderating the drops in insurance coverage that can follow from several losses or from declines in prices. But guarantees fixed for several years at a time would have the potential to distort production if they exceed the market value of the crops and undermine the actuarial integrity of the insurance program. Multiple-year contracts could also be much more costly than annual crop insurance contracts.

The Government-Private Crop Insurance Partnership

Expansion in the Federal crop insurance program since the early 1990's has been accompanied by expansion in the role of private insurance companies. The companies have developed new products, notably Revenue Assurance and Crop Revenue Coverage, and have borne an increasing amount of underwriting risk. Still, the Federal government provides substantial support and direction to the program. In products approved by the FCIC board of directors, it provides premium subsidies to producers in order to encourage participation, expense reimbursements to the companies to cover costs of selling and servicing policies, and underwriting risk protection to the companies.

Government involvement in providing crop insurance is explained in part by several "market failure" arguments. One such argument is that natural disasters associated with crop production tend to affect many producers in an area at the same time, so pooling risk on a sufficient scale is difficult for most private insurers. Another argument suggests that purely private markets for crop insurance would fail because other producer responses to risk—diversification, borrowing, drawing on savings—reduce the value of the additional protection provided by insurance, making insurance unattractive when offered at competitive market prices.

In order to encourage participation in crop insurance, RMA provides subsidies to reduce producer premiums. The amount of the subsidy depends on the type of insurance and the coverage level. For CAT coverage, the premium is entirely subsidized. For what has been the most

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popular “buy-up” (above CAT) coverage level—65 percent of yield at 100 percent of price—the subsidy has been about 42 percent of the total premium. As a further incentive to purchase crop insurance, the Secretary of Agriculture authorized up to an additional \$400 million in premium subsidies for 1999 buy-up coverage. The additional funds, part of the emergency assistance package passed by Congress in 1998, are expected to reduce producer-paid premiums by about 30 percent.

Under most private insurance, the premiums include administrative costs as well as the costs of expected indemnities. Under the crop insurance program, total premiums—producer-paid plus government subsidies—are designed to cover only expected indemnities. For this reason, FCIC/RMA provides administrative subsidies to insurance companies to cover the costs of selling and underwriting policies, adjusting losses, and processing policy data. Because administrative costs vary by type of insurance, the subsidy amount is designed to match reimbursement to differing workloads.

The administrative subsidy, like the producer premium subsidy, is generally highest (in dollar amount) for individual farm APH-MPCI buy-up coverage and lowest for GRP area-yield insurance. The APH-MPCI subsidy is high because of the costs of establishing individual farm yield histories and guarantees and adjusting losses on an individual basis. The GRP subsidy

is low because it requires no fieldwork to adjust losses.

The underwriting exposure—potential gains or losses—of private crop insurance companies has grown considerably. Underwriting gains or losses arise as premiums are used to offset indemnities paid. In the crop insurance program, private companies share the underwriting risk with FCIC. The companies’ crop insurance business is reinsured by FCIC under the Standard Reinsurance Agreement (SRA). The companies can obtain additional reinsurance in commercial markets. In 1992, the companies’ total capital at risk—maximum possible losses after FCIC reinsurance—was about \$227 million. Since then, as risk-sharing provisions of the SRA have been renegotiated and the size of the crop insurance business has grown, the companies’ total capital at risk has grown to about \$1.5 billion.

With the exception of 1993, growing conditions have been generally favorable since 1992 and company underwriting gains have been sizable. Underwriting gains totaled approximately \$1.1 billion over 1992-98, an average of about \$155 million per year. The average, however, masks wide variation among areas, companies, and years. For instance, net underwriting gains in 1997 were \$352 million, while yield losses due to floods in 1993 were responsible for net underwriting losses of \$84 million. While the potential for underwriting gains is large, the private

companies are also exposed to large potential losses. For example, had the 1988 drought occurred in 1998, when more acres were insured and the companies’ risk exposure was larger, it is estimated that net underwriting losses would have exceeded \$450 million.

Since the early 1990’s, the Federal crop insurance program has expanded in the scope and variety of risk protection offered to producers. A major reform added a low level of coverage, and combined with premium subsidies and linkage to other farm programs dramatically increased insurance coverage. Maximum coverage levels that producers can purchase have been raised under pilot programs for some crops in some areas of the country. Revenue insurance products have been developed and have captured significant shares of the crop insurance business.

At the same time, private insurance companies have played a larger role in delivering crop insurance, developing new products, and sharing underwriting risk. Nonetheless, questions remain about the effectiveness of the coverage available under the crop insurance program in assisting producers in managing the economic risks in farming, and crop yield and revenue insurance are likely to be the focus of policy decisions about strengthening the farm safety net. **AO**

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Risk Management



Risk Management Agency

Tax-Deferred Savings Accounts For Farmers: A Potential Risk Management Tool

A program of tax-deferred savings accounts for farmers is among the alternatives currently under consideration by Congress to help farm operators manage their year-to-year income variability. Unlike the income-averaging provision for farmers included in the Taxpayer Relief Act of 1997, which allows farmers to spread above-average income to prior tax years and avoid being pushed into a higher tax bracket, tax-deferred savings accounts would build a cash reserve to be available for risk management. By depositing income into special Farm and Ranch Risk Management (FARRM) accounts during years of high net farm income, farmers could build a fund to draw on during years with abnormally low income. Federal income taxes on eligible contributions would be deferred until withdrawal.

Proposals for tax-deferred risk management savings accounts originally surfaced after passage of the 1996 Farm Act, as a mechanism to encourage farmers to save a portion of the 7-year transition payments. In 1998, as Congress sought to expand the farm safety net and ease stress from recent low prices and regional disasters, it again

considered FARRM accounts. A bill to authorize FARRM accounts has now been introduced in the 1999 Congressional session (H.R. 957, S. 642), and is likely to generate more debate.

How FARRM Accounts Would Work

Under the current FARRM account proposal, farmers could take a Federal income tax deduction for FARRM deposits of no more than 20 percent of *eligible farm income*—taxable net farm income from IRS Form 1040, Schedule F, plus net capital gains from sale of business assets including livestock but not land. Deposits would be made into interest-bearing accounts at approved financial institutions, and interest earnings would be distributed and taxable to the farmer annually. Withdrawals from principal would be at the farmer's discretion (no price or income triggers for withdrawal), and taxable in the year withdrawn. Meaningful income triggers would be difficult to determine given the nature of taxable farm income and the fact that price levels do not necessarily correlate with farm-level yield or income variability.

Deposits could stay in the account for up to 5 years, with new amounts added on a first-in first-out basis. Deposits not withdrawn after 5 years would incur a 10-percent penalty. FARRM funds would have to be withdrawn if the account holder were disqualified from participating by not farming for 2 consecutive years. Deposits and withdrawals would not affect self-employment taxes.

FARRM account eligibility would be limited to individual taxpayers—sole proprietors, partners in farm partnerships, and shareholders in Subchapter S farm corporations—who report positive net farm income and owe Federal income tax. The program should be relatively easy to administer through the use of existing income tax forms, with reporting requirements similar to those of individual retirement accounts (IRA's). Contributions and distributions from the accounts could be verified by matching income tax returns with records from banks or other financial institutions where the accounts are held.

Although farm sole proprietors make up the largest share of potentially eligible individuals, over two-thirds either report a farm loss or have no Federal income tax liability and therefore could neither participate nor benefit from participation. And actual participation could be significantly less than the number eligible.

Using 1994 Internal Revenue Service (IRS) data, USDA's Economic Research Service estimates that 916,000 farmers would be eligible to contribute as much as \$2.8 billion to FARRM accounts each year. Farm sole proprietors account for over two-thirds of eligible participants and three-fourths of potential contributions. But about half of eligible farm sole proprietors would be limited to contributing less than \$1,000. Thus, each year only about one of every six sole proprietors could contribute more than \$1,000. Contributions for farm partners would also be small—averaging below \$2,000—but subchapter S shareholders' contributions could average \$4,355.

Basing eligibility for contributions on positive net farm income would direct

This article continues the series on risk management.

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much of the benefit of FARRM accounts to those relying on farming for more than half their income. About two-thirds of potential contributions by sole proprietors would be concentrated among the one-third of eligible sole proprietors who derive over half their income from farming. A very small share of limited resource farmers—gross farm sales under \$100,000 and household income less than \$10,000—would be eligible, and their contributions would be rather small.

The amount of money that would be deposited into FARRM accounts and a minimum account balance that would be sufficient to provide risk protection for either farm operations or household living expenses are difficult to estimate. But with over 80 percent of all farmers limited to contributions of less than \$1,000 in any given year, and with participation rates expected to be less than 100 percent, most farmers are not likely to accumulate significant reserves. Some producers with low contribution limits may be able to deposit larger amounts in years when farm income is higher. But the 5-year window for building reserves and the generally low level of taxable net farm income combine to reduce the likelihood that most farmers would be able to build balances adequate to self-insure risk exposure.

Although 1994 is the most recent year for which complete data are available, it was not an especially good year for farm income. Examination of the most profitable year during the 1990-94 period (1990) suggests that aggregate potential contributions would have increased by about 25 percent to \$3.5 billion. Thus, with 100-percent participation, potential 5-year contributions could range from \$14 to \$17.5 billion. The official revenue estimate by the Congressional Joint Committee on Taxation suggests that aggregate account balances would be well below this amount as a result of withdrawals and less than full participation.

Looking at data for 1996, a year when farmers benefited from both high farm prices and high government program payments, it appears that estimates of eligible participants and total potential contribution amount would not change significantly. Despite a slight increase in total taxable income from farming, the number

Sole Proprietors Would Predominate Among FARRM Account Holders...

	Eligible farmers		Maximum potential FARRM deposits		
	Number (1,000)	Percent	\$ million	Percent of total	\$ mean deposit
All	916	100.0	2,830	100.0	3,090
Sole proprietors	626	68.3	2,138	75.5	3,415
Partners	242	26.5	483	17.1	1,995
Subchapter S shareholders	48	5.2	209	7.4	4,355

...But Nearly Three-fourths of Them Could Not Have FARRM Accounts

	Sole proprietors		Maximum potential FARRM deposits		Average income	
	Number (1,000)	Percent	\$ million	Percent	Off-farm	Farm
All sole proprietors	2,265	100.0	2,138	100.0	49	*
Ineligible to deposit, due to:						
Negative net farm income	1,422	62.8	0	0	56	-10
No Federal tax owed	217	9.6	0	0	5	8
Eligible to deposit:						
\$1-\$999	282	12.4	87	4.1	50	2
\$1,000-\$9,999	305	13.5	1,112	52.0	35	19
\$10,000-\$19,999	27	1.2	363	17.0	51	69
\$20,000 or more	12	0.5	576	26.9	263	246

Eligible farmers are those who report a positive combination of net farm income from Form 1040, Schedule F, plus capital gains from business assets other than farmland, and who owe Federal income tax. Maximum potential deposits estimated as 20 percent of eligible farmers' total net farm income.

* Loss under \$500.

Source: Compiled from 1994 IRS Individual Public Use Tax File.

Economic Research Service, USDA

of farmers with taxable farm income actually dropped by about 30,000. Moreover, the number of farmers and other taxpayers who owe no Federal income tax has since increased, due in large part to the new child credit and other tax relief measures enacted in 1997 and 1998. As a result, the number of farmers who would be eligible to make contributions if the program is implemented may actually be lower than 1994 data suggest.

Should Benefits Be Targeted?

Without a provision for targeting—specifying who is eligible to participate and where program benefits are expected to be concentrated—most of the benefits of FARRM accounts would go to relatively few farmers, and some would go to individuals who do not rely on farming for their livelihood. The FARRM account proposal currently on the table does not specify a maximum annual contribution or a limit on accumulated balances. About 0.5 percent of farm sole proprietors would be eligible to contribute over \$20,000 annually, adding up to more than 25 percent of total sole proprietors' potential

deposits. Off-farm income for this group exceeds \$250,000, on average, and a small subset of very high-income individuals would be eligible for contributions averaging \$50,000. In contrast, many farmers with persistently low farm incomes, highly vulnerable to income swings, would likely be ineligible to contribute or unable to build sufficient FARRM account balances.

Concentrating benefits for individuals at high income levels and excluding low-income farmers may raise concerns about appropriately targeting the program. Targeting could be used to reach a specific group of farmers by placing a cap on annual contributions or by limiting eligibility based on the household's adjusted gross income (AGI). For example, restricting eligibility to individuals with AGI under \$100,000 would reduce potential contributions by about a third and cut the cost to taxpayers—from farmers deferring taxes—nearly in half, but would reduce the number of eligible farmers by less than 10 percent.

Risk Management

The 1996 proposal for tax-deferred savings had a targeting provision—\$40,000 annual contribution limit and 10-year time limit for withdrawals. A Canadian program for farmer tax-deferred savings limits its annual contributions and accumulated balances, but has no time limit.

FARRM Accounts Are Intended To Manage Risk, Not Taxes

To meet goals of program efficiency—benefits offsetting costs—and risk management, FARRM accounts must create new savings rather than shift assets or replace existing risk management practices. The cost of the FARRM account program is primarily the decrease in government revenue associated with tax deferral. The benefits are mainly farmers' increased financial stability, and diminished need for government farm program payments or emergency aid payouts.

Creating new savings instead of shifting assets could mean a gain for taxpayers and a stronger risk position for farmers. To enhance farmers' risk management capabilities, new savings have to come from reduced household consumption or from funds that would have been invested in the business, rather than from shifting existing savings, diverting future new savings, borrowing, or depositing taxes deferred by making the contributions. But evidence indicates that most potentially eligible farmers have ample resources to shift funds into FARRM accounts instead of creating new savings.

Information on interest earnings for potentially eligible individuals suggests that contributions from existing liquid assets could fund a large portion—about three-fourths of total potential contributions—in the first year, and over half of eligible farmers have sufficient existing savings to fund FARRM account contributions for several years. Farmers with adjusted gross income above \$100,000 are more likely to be able to fund a larger proportion of contributions from existing savings, while eligible farmers with AGI

Canada Already Has a Savings Plan for Farmers

Risk management savings accounts are not without precedent. In 1991, Canada began the Net Income Stabilization Account (NISA) program to encourage farmers to save for self-insurance (*AO* May 1995). The farmer's contribution earns a 3-percent interest rate bonus and is supplemented by a matching government contribution. Unlike the U.S. proposal, a farmer's NISA contribution is not tax-deferred, but government contributions and interest earnings are not taxed until withdrawal. Annual farm contributions are limited to 20 percent of the year's sales, and deposits eligible for government matching are limited to the smaller of \$7,500 or 3 percent of eligible farm sales—gross sales of most primary commodities minus purchases of those commodities, such as seed and feed. NISA has no time limit on deposits, but account balances may not exceed 1.5 times the farm's 5-year average sales.

Analysis of the NISA provision that allows withdrawals only when income falls below an established threshold suggests that rules for withdrawal can create obstacles to effective use of funds. Administrative delays in availability of funds to farmers reduce the program's usefulness as a source of emergency funding. This partially explains why many Canadian farmers who became eligible for withdrawals did not actually take funds from their accounts.

under \$50,000 have less existing savings available and are more likely to create new savings if they decide to participate.

USDA's 1994-95 Agricultural Resource Management Study reveals that a majority of households associated with farms that have gross sales of \$50,000 or more already keep liquid assets to meet unexpected expenses. If those liquid assets were moved into FARRM accounts, the household would benefit from tax deferral without incurring significant restrictions on availability of funds, but would not enhance their ability to manage risk.

Research on IRA's, similar in concept to FARRM accounts, documents a significant amount of asset shifting rather than new saving. The FARRM program provision that requires a contribution to be withdrawn within 5 years effectively limits the amount of income that can be accumulated in the account and prevents a FARRM account from becoming an additional retirement savings plan. But asset shifting could be even more prevalent for FARRM accounts than for IRA's because FARRM accounts remain liquid and, without price or income triggers that must be reached to allow withdrawals, FARRM

accounts do not lock the money into long-term reserves. In addition, FARRM funds are not required to remain on deposit for a minimum time and, like IRA's, contributions prior to April 15 would apply to the preceding tax year, so depositing funds in FARRM accounts for a short period could provide a 1-year income tax deferral.

A program of tax-deferred risk management accounts has the potential to encourage farmers to provide their own safety net by saving money from high-income years to withdraw during low-income years. Taxpayers could benefit if farmers' additional financial diversification and liquidity reduce the need for continued income support programs or ad hoc farm disaster relief. Nonetheless, there are several potential limitations to the program's effectiveness. These include: 1) low levels of taxable farm income that could preclude most farmers from building meaningful account balances—particularly those most in need of risk management tools, such as limited resource and beginning farmers; 2) concentration of program benefits among operators with large farms and relatively high off-farm income; and 3) funding of FARRM accounts with farmers' existing liquid assets instead of new saving. **AO**

For more information see:

Do Farmers Need Tax-deferred Savings Accounts to Help Manage Income Risk?

Call 1-800-999-6779 for a printed copy (AIB 724-07) or access it on the ERS website at www.econ.ag.gov/epubs/pdf/aib724.

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Special Article

Concentration & Competition In the U.S. Food & Agricultural Industries

The U.S. food and agricultural sector continues to industrialize, and the effects have been particularly evident in the last two decades. Industrialization is associated with a range of structural changes, including larger firm size, specialized production methods, vertical coordination, and concentration—sharp declines in the number of buyers or sellers of a product. In the industrialization process, farms and factories typically become much larger and also more specialized; for example, livestock feeders buy feed instead of growing it, or hire labor instead of providing it themselves. Buyers and sellers of agricultural commodities often change the way they do business, relying less on open spot markets, and more on contractual and administrative methods for buying or selling.

Industrialization creates broad changes far beyond the immediate effects on individual operators. As larger and more specialized producers realize lower production costs and increase production, competition can force cost reductions to be passed through in the form of lower commodity and food prices. For traditional producers whose costs do not fall, incomes are often squeezed as farm prices decline. In addition to greater commodity volumes, larger production units will often generate much larger volumes of waste products (manure, odor, effluents), and existing methods of local pollution control can be overwhelmed by more concentrated waste flows. New production methods brought about by industrialization often lead to important changes in labor forces, transportation, and land use patterns in local communities, with major implications for local public services and local businesses.

Industrialization can also lead to concentration, which may limit competition because concentrated sellers may be able to raise prices charged to buyers, and concentrated buyers may be able to reduce prices they pay to sellers. Reduced competition may in turn limit opportunities for society to gain from industrialization, by limiting the spread of innovations and by tilting the market's results in favor of the players with market power.

Concentration has become a concern in several key agricultural industries linked closely to farmers. For example, recent railroad mergers have left two major carriers serving grain shippers in the West, and the proposed sale of Continental Grain's merchandising business to Cargill will concentrate grain export facilities serving the Gulf Coast. Sharp increases in meat packer concentration may affect livestock producers. And mergers in the seed industry could potentially leave much of the important research and development in biotechnology in the hands of a few companies. But industrialization (i.e., expanding firm size) does not necessarily lead to a reduction in competition, and the structural changes generated by industrialization may have little impact on competition.



National Grain and Feed Association

Distinguishing Industrialization From Concentration

Distinguishing between changes in concentration and broad patterns of industrialization is important because firm size does not necessarily affect how firms compete. Consider the statistics of the U.S. livestock sector. Hog producers large enough to market at least 50,000 animals in a year were virtually unheard of in the 1970's. But by 1988, such very large operations accounted for 7 percent of all hogs marketed, and by 1997 they accounted for over a third of all marketings. The size of slaughter plants has grown along with producer size; plants slaughtering at least 1 million hogs a year handled 24 percent of hog slaughter in 1975, but handled 87 percent by 1996.

Meat packers typically buy cattle from large feedlots (selling at least 16,000 cattle a year); today, a little over 200 large cattle feeders account for more than half of the 28 to 29 million steers and heifers moving to meat packers. Twenty years ago, large feeders accounted for less than 20 percent of marketings. In the mid-1970's, about 13 percent of all fed beef came from plants that slaughtered more than half a million steers and heifers a year; two decades later, these large plants handled almost 80 percent of U.S. fed-beef slaughter.

These statistics reflect industrialization; producers and packers have become larger. In considering the potential effects of indus-

trialization on competition, however, it is necessary to distinguish size from concentration.

Concentration in cattle slaughter has increased dramatically, to levels that in many instances indicate a lessening of competition. In 1980, the four largest slaughter firms handled 36 percent of all steer and heifer slaughter. By 1993, the four-firm concentration ratio (CR4) rose to 80 percent, where it has remained.

But large size does not necessarily imply high concentration. The largest hog producers and cattle feedlots are much larger than they used to be, but there are still hundreds of them. They are not concentrated enough to be able to alter prices. While concentration in the cattle slaughter industry has increased dramatically, concentration in hog slaughter is still not unusually high—CR4 stood at 56 percent in 1998.

Moreover, high concentration doesn't necessarily mean large size. The only supermarket in a small and isolated town likely has more power to raise food prices than does a superstore competing with other large supermarkets in a densely populated metropolitan area.

High Concentration Can Lead To Less Competition...

In highly concentrated markets, a small number of sellers may be able to avoid competing with one another and may raise prices substantially. Similarly, a small number of buyers may force prices down substantially if they can avoid competing with one another. The following examples illustrate the issues.

The *world market for lysine*, a key ingredient in animal feeds, is dominated by four sellers: the American firm Archer Daniels Midland (ADM), the Japanese firms Ajinomoto and Kyowa, and a Korean producer, Sewon. ADM's entry into the business in 1991 led to a price war, after which the four began to explicitly collude; that is, they agreed to refrain from competing on price and attempted jointly to cut production and raise prices. During the period of collusion, the conspiring firms were able to raise prices by 50-100 percent compared with periods when they were not colluding.

Three major producers dominate the *U.S. market for infant formula*, and over half of formula purchases is financed through USDA's Supplemental Nutrition Program for Women, Infants, and Children (WIC). In 1989, Congress demanded implementation of measures to contain WIC infant formula costs. One measure was sole-source contracts awarded on the basis of competitive bids, under which the firm offering the lowest net price (wholesale price minus a rebate to state WIC agencies) would be awarded exclusive rights to all WIC sales in a state. State WIC agencies would then bill the manufacturer for rebates on all WIC voucher purchases of formula at authorized outlets.

The sole-source contracts introduced competition into a highly concentrated market. On average, formula makers charged a wholesale price of \$2.48 cents a can to retailers in 1996. Non-

WIC households paid the wholesale price, plus the retail markup. The WIC program received an average manufacturer rebate of \$2.10 cents a can, thus paying a net wholesale price of 38 cents a can (85 percent below the non-WIC price), plus the retail markup. Because WIC and non-WIC products and marketing channels are identical, there are no relevant cost differences between the two markets. The enormous size of the rebates strongly suggests that these manufacturers have significant power to raise prices above costs, and that they had significant market power in WIC markets before the buying reforms were introduced.

Railroad mergers in the 1990's reduced the number of western railroads from four to two. Analyses by USDA's Economic Research Service indicate that rail rates for hauling grain rise as the number of railroads declines, and that carrier consolidation would likely increase rates by 10-20 percent. USDA expressed reservations about the first merger (between Burlington Northern and Atchison, Topeka, and Santa Fe) and opposed the second (between the Union Pacific and Southern Pacific). The U.S. Department of Justice also opposed the second merger, but the Surface Transportation Board, which has jurisdiction over rail mergers, approved both mergers.

USDA and cattle producers have repeatedly expressed concern over high concentration in *cattle slaughter*, particularly in steers and heifers, where three firms (IBP, Cargill, and Conagra) dominate the industry. High concentration may result in lower prices paid to producers for cattle and higher retail prices paid by consumers for meat. But academic and government researchers have not found evidence of substantial price effects from high concentration in meat packing. Estimates of cattle price effects from concentration range from zero to a 4-percent decline. Moreover, the largest effects occur outside the Great Plains (though the biggest packers' major plants are in that region).

.... But Does Not Always Reduce Competition

Why should the price effects of concentration vary so much across markets? It is because concentration limits competition when it combines unfavorably with other factors, such as the nature of substitutes for the commodity subject to high concentration, the ease of entry into the market, and the nature of rivalry among existing firms in the market.

Consider the nature of substitutes, using rail transport as an example. Trucks and barges are workable substitutes for rail for some commodities and on some routes. For grain shippers, trucks are good substitutes on short hauls, and barges are good substitutes near the Mississippi and Missouri rivers; in those regions, rising railroad concentration has little effect on rates, because shippers can easily shift to competing modes. Increased rail concentration can have important rate effects where there are few good substitutes, such as on long-haul shipments from the Western Plains, far from large navigable rivers.

Now consider entry barriers. Entry into railroading is exceptionally risky—a carrier must commit a significant investment to trackage and rolling stock, and the trackage really has no

Special Article

Ease of Market Entry Can Limit Price Effects Of Concentration

Market characteristics	Market			
	Lysine	Infant formula	Western railroads	Cattle slaughter
Number of dominant firms	4	3	2	3
Price effects of concentration	50-100%	600%	10-20%	0-4%
Ease of market entry	Hard	Hard	Very hard	Easy
Product/service substitutes	Limited	Limited	Limited in places	Limited
Buyer/seller response to price changes	Quick	Slow	Quick	Quick

Source: Compiled from academic, government, and industry studies.
Economic Research Service, USDA

secondhand market (except as scrap). Because of that risk, the only major railroad entry in the last 50 years was the 1980's expansion by Chicago and Northwestern into the highly profitable coalfields in Wyoming's Powder River basin.

Entry into the markets for lysine and infant formula, while not as difficult as railroading, is nevertheless quite risky. Because one efficient plant can account for a significant share of the market (e.g., ADM's one plant produces half of U.S. lysine sales), any entrant must recognize that one additional entry could bring prices down substantially, causing losses for the entrant. Moreover, production in each market involves specialized know-how, so that new entrants could find themselves at a serious cost disadvantage compared with incumbents.

On the other hand, there are fewer barriers to entry in cattle slaughter. A new slaughter plant, while large and expensive, would still account for only 5 percent of industry sales. Because a single new entrant would not have the potential effect on prices as in the other examples, entry is less risky. Moreover, production processes in meat packing are relatively simple, without the complex pieces of capital equipment and without the trade secrets found in the other examples. All in all, entry is easier in meat packing, and existing firms with large market share should therefore exert weaker effects on prices.

Finally, consider rivalry among existing players, which in turn depends greatly on how buyers (or cattle sellers in the case of meat packing) react to changes in the prices offered by concentrated firms. Many parents in the non-WIC infant formula market rely on physicians' recommendations of specific brands. This strong brand loyalty means that formula buyers are unlikely to respond rapidly to a price cut by a seller; formula sellers therefore have weak incentives to cut prices, resulting in little price competition. By contrast, buyers in the WIC market (i.e., state agencies) respond dramatically to price cuts: if a formula seller cuts price below other brands, it gets all WIC sales in a state, while if it raises prices above others, it loses all of a state's WIC sales. Because WIC buyers react so strongly to price changes, formula sellers have strong incentives to compete on price.

Buyers in lysine and railroad markets (elevators, feed companies, grain merchants) also have the expertise to compare alternative offers and have strong incentives to seek lower prices for the large volumes they buy. They will often be quite responsive to individual price cuts, and rival sellers have strong incentives to compete on prices. Indeed, lysine sellers colluded as a way to reduce price competition that continually broke out among them.

Because the cattle market is concentrated on the buying side, the issue concerns the responsiveness of cattle sellers to price offers made by concentrated buyers, and the consequent incentives for buyers to compete on price. USDA identified 19,395 separate sellers in a survey of 1992 cattle purchases by large steer and heifer slaughter plants. Only 300 of those sellers were large feedlots (each selling at least 16,000 head of cattle that year). But large feedlots accounted for over 70 percent of all cattle sold, and averaged nearly 400 transactions annually; that is, large feedlots sell a lot of cattle and are in the market frequently. They should have the incentive and the market expertise to react quickly to price differences among cattle buyers, and consequently major meat packers should face strong incentives to compete actively on price.

Most cattle sellers (89 percent) in the 1992 USDA survey were small farmer-feedlots. On average, small feedlots sold less than 200 cattle each to the largest packing plants during the year, in just two to three transactions, and together accounted for only 14 percent of all cattle sold to the plants. Those sellers could be less able to react to price cuts by packers, and packers could have opportunities to cut cattle price offers to smaller feedlots.

The few large meat packers appear to compete aggressively among themselves for cattle, because entry barriers are low and sellers react strongly to price competition. That does not mean that meat packers will always compete; competitive struggles among the firms in highly concentrated industries sometimes abate over time as they come to know each other's strategies better. Nor does it mean that meat packers compete aggressively on every cattle purchase or that there may not be some anticompetitive behavior; they may possess localized market power over some classes of sellers and in some locations. But during 1992-93, after a dramatic period of growing concentration in the 1980's and early 1990's, the meat packing industry had not shown the broad evidence of market power that is so evident in some other sectors. Therefore, based on available information, it appears unlikely that efforts to reduce concentration in meat packing would have substantive effects on cattle prices.

Federal Policies Target Competition, Not Concentration

Federal competition policies generally address those markets in which firms may be able to exercise market power. For example, merger statutes call for restrictions on mergers that may tend to create monopoly or otherwise restrict competition. The Department of Justice, the Federal Trade Commission, and Federal courts focus on mergers in highly concentrated markets where the products or services have few substitutes, where the industry has barriers to entry, and where there are other factors likely to

limit competition. Antitrust policy on trade practices focuses on actions—frequently related to marketing strategies and trade announcements—that serve principally to deter entry or to extend a dominant firm’s market power without having any overriding business benefits.

Under U.S. statutes, explicit coordination of pricing and other economic decisions by rival firms is illegal and subject to criminal penalties, even if such collusion is unsuccessful in altering prices. As a result, enforcement often emphasizes evidence of meetings and written, oral, or electronic communications among rivals. But firms are more likely to attempt to collude in markets where collusion might successfully lead to price changes, where concentration is at least moderately high, and where some other conditions conducive to market power (entry barriers, limited substitution, and ability to curtail production) are present.

Antitrust law can restrict actions that are anticompetitive, such as collusion or a specific merger, but it cannot direct firms to take procompetitive actions. Antitrust enforcement rarely focuses directly on independent pricing decisions taken by firms (e.g., deciding without collaboration to refrain from price competition). In the case of the lysine conspirators, antitrust laws were involved because conspiracy among firms could be identified and deterred through fines and criminal penalties. The antitrust laws could have been used against railroad mergers, where prohibiting a merger may have preserved greater competition. Where manufacturers independently refrain from competing with one another, some evidence of collusion or concerted inaction would generally be required.

Antitrust law is not the only policy tool for affecting competition. Some industries, meat packing for example, are subject to extensive Federal regulation, and unfair or deceptive trade practices by meat packers that may not be considered violations of the antitrust laws may violate the Packers and Stockyards Act. In addition, USDA procurement policies have direct effects on competition among makers of infant formula because USDA is a major buyer and because existing industry conditions (high concentration, entry barriers, and brand loyalty) create extraordinary potential for sellers to exercise market power. Aggressive procurement strategies will have much weaker effects on purchase prices in markets that are more competitive than infant formula.

Patent policies can also affect competition. A patent provides the holder with the exclusive right to produce and market a new commercial product for a specified period of time. Patent policy attempts to induce greater competition among would-be innovators by limiting entry of competitors into the newly created market. Instruments of patent policy, including the breadth of the

patent, length of the patent life, and the information that must be disclosed in order to obtain a patent, tailor the terms of that tradeoff between competition in innovation and competition in later production.

With each of these policy tools, concentration matters only to the extent that it affects competition. Moreover, policies do not proceed under the assumption that reductions in the number of competitors automatically reduces competition. In each case, great emphasis is placed on understanding the conditions under which reductions in competitors and increases in concentration will lead to changes in market power and the ability to influence prices.

Competition Not Always an Issue In Industrialization

Many food and agricultural industries are undergoing broad structural changes, and the general trend is toward fewer but larger producers. In some markets, structural changes have led to high concentration and significant market power, and in some of those cases, Federal competition policies can counteract market power without losing the economic advantages that industrialization brings.

Industrialization also raises issues that have little to do with market power or competition. Industrialization may overwhelm existing environmental controls, create intense new stresses on local public services, undermine the incomes of producers using more traditional production methods, and change rural communities. Competition policies are not designed to deal with these issues; indeed, competition may even intensify those stresses. For example, if large confinement feeding operations grow out animals at lower costs than traditional operations, then the more competitive the industry, and the more rapidly production shifts to large operations. If large operations generate greater localized volumes of wastes, greater competition will also lead to earlier and more intense environmental problems.

Industrialization and structural change sometimes limit competition. But their broader effects more often reflect competition while frequently undermining traditional methods of production, environmental control, and public service delivery. The challenge for policy makers is to identify which of industrialization’s effects should be constrained, and to design instruments that can reach those policy goals. **AO**

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Statistical Indicators

Summary Data

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

	1998						1999			
	1997	1998 F	1999 F	II	III	IV	I	II	III	IV
Prices received by farmers (1990-92=100)	107	101	--	103	101	99	--	--	--	
Livestock & products	98	96	--	96	97	97	--	--	--	
Crops	116	107	--	112	104	101	--	--	--	
Prices paid by farmers (1990-92=100)										
Production items	117	112	--	114	111	110	--	--	--	
Commodities and services, interest, taxes, and wages (PPITW)	117	115	--	116	114	114	--	--	--	
Cash receipts (\$ bil.)	209	196	191	43	47	59	46	41	46	--
Livestock	97	93	94	23	24	24	23	23	23	--
Crops	112	103	97	20	23	35	22	18	23	--
Market basket (1982-84=100)										
Retail cost	160	163	--	162	163	165	--	--	--	--
Farm value	106	103	--	103	103	104	--	--	--	--
Spread	189	195	--	194	195	198	--	--	--	--
Farm value/retail cost (%)	23	22	--	22	22	22	--	--	--	--
Retail Prices (1982-84=100)										
All food	157	161	164	160	161	162	164	164	164	--
At home	158	161	164	160	161	163	164	164	164	--
Away from home	157	161	165	161	162	163	164	165	166	--
Agricultural exports (\$ bil.) ¹	57.3	53.6	49.0	14.3	12.1	11.1	14.4	12.7	11.2	10.7
Agricultural imports (\$ bil.) ¹	35.8	37.0	38.0	9.8	9.4	8.7	9.2	9.4	9.4	10.0
Commercial production										
Red meat (mil. lb.)	43,209	45,134	44,884	11,013	11,380	11,702	11,407	11,259	11,257	10,961
Poultry (mil. lb.)	33,258	33,667	35,265	8,457	8,375	8,580	8,580	8,870	8,910	8,905
Eggs (mil. doz.)	6,473	6,659	6,830	1,644	1,658	1,712	1,690	1,685	1,705	1,750
Milk (bil. lb.)	156.1	157.4	162.2	40.8	38.5	38.9	40.3	42.1	39.9	39.8
Consumption, per capita										
Red meat and poultry (lb.)	208.6	214.6	218.2	52.3	54.0	56.6	54.6	54.0	54.5	55.1
Corn beginning stocks (mil. bu.) ²	425.9	883.2	1,307.8	7,246.8	4,939.9	3,039.8	1,307.8	8,051.9	5,695.5	--
Corn use (mil. bu.) ²	8,788.6	8,791.0	9,285.0	2,307.8	1,903.7	1,734.0	3,021.0	2,361.4	--	--
Prices ³										
Choice steers--Neb. Direct (\$/cwt)	66.32	61.48	63-66	64.16	58.97	61.06	62.35	63-65	62-66	63-69
Barrows and gilts--IA, So. MN (\$/cwt)	54.30	34.72	35-37	42.87	36.61	22.06	28.83	34-36	39-41	39-43
Broilers--12-city (cents/lb.)	58.80	63.10	57-59	61.00	70.40	64.50	58.10	57-59	57-61	55-59
Eggs--NY gr. A large (cents/doz.)	81.20	75.80	71-74	66.50	76.00	81.70	75.00	64-66	68-72	77-83
Milk--all at plant (\$/cwt)	13.34	15.38	13.30-13.80	13.73	15.37	17.83	15.97	12.20-12.60	11.85-12.55	13.10-14.10
Wheat--KC HRW ordinary (\$/bu.)	4.16	3.29	--	3.32	2.86	3.34	3.16	--	--	--
Corn--Chicago (\$/bu.)	2.78	2.34	--	2.49	2.03	2.11	2.16	--	--	--
Soybeans--Chicago (\$/bu.)	7.63	6.01	--	6.39	5.53	5.44	--	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	69.89	67.02	--	66.86	72.60	64.15	--	--	--	--
	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

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. 1990-98 values as of January 1.

U.S. & Foreign Economic Data

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

	1997						1998			
	1996	1997	1998	II	III	IV	I	II	III	IV
<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	8,063.4	8,170.8	8,254.5	8,384.2	8,440.6	8,537.9	8,681.2
Gross National Product	7,674.0	8,102.9	8,490.5	8,062.3	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	5,438.8	5,540.3	5,593.2	5,676.5	5,773.7	5,846.7	5,934.8
Durable goods	634.5	673.0	724.7	659.9	681.2	682.2	705.1	720.1	718.9	754.5
Nondurable goods	1,534.7	1,600.6	1,662.4	1,588.2	1,611.3	1,613.2	1,633.1	1,655.2	1,670.0	1,691.3
Food	756.1	780.9	815.3	775.8	785.3	787.1	796.9	810.2	818.7	835.6
Clothing and shoes	264.3	278.0	293.8	275.6	280.9	280.7	291.0	295.3	293.7	295.1
Services	3,038.4	3,220.1	3,420.8	3,190.7	3,247.9	3,297.8	3,338.2	3,398.4	3,457.7	3,488.9
Gross private domestic investment	1,116.5	1,256.0	1,367.1	1,259.9	1,265.7	1,292.0	1,366.6	1,345.0	1,364.4	1,392.4
Fixed investment	1,090.7	1,188.6	1,307.8	1,176.4	1,211.1	1,220.1	1,271.1	1,305.8	1,307.5	1,346.7
Change in business inventories	25.9	67.4	59.3	83.5	54.6	71.9	95.5	39.2	57.0	45.7
Net exports of goods and services	-94.8	-93.4	-151.2	-86.8	-94.7	-98.8	-123.7	-159.3	-165.5	-156.2
Government consumption expenditures and gross investment	1,406.7	1,454.6	1,487.1	1,451.5	1,459.5	1,468.1	1,464.9	1,481.2	1,492.3	1,510.2
<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	7,236.5	7,311.2	7,364.6	7,464.7	7,498.6	7,566.5	7,677.7
Gross National Product	7,008.4	7,266.2	7,537.8	7,239.3	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	4,872.7	4,947.0	4,981.0	5,055.1	5,130.2	5,181.8	5,246.0
Durable goods	611.1	668.6	737.1	653.8	679.6	684.8	710.3	729.4	733.7	775.0
Nondurable goods	1,432.3	1,486.3	1,544.1	1,477.1	1,495.7	1,494.3	1,521.2	1,540.9	1,549.1	1,565.1
Food	689.7	699.3	718.0	697.3	700.6	699.9	706.8	716.3	718.9	730.1
Clothing and shoes	267.7	288.4	310.3	283.3	291.9	292.3	307.4	311.4	309.8	312.5
Services	2,671.0	2,761.5	2,879.5	2,743.6	2,775.4	2,804.8	2,829.3	2,866.8	2,904.8	2,917.2
Gross private domestic investment	1,069.1	1,206.4	1,330.1	1,211.3	1,215.8	1,241.9	1,321.8	1,306.5	1,331.6	1,360.6
Fixed investment	1,041.7	1,138.0	1,267.8	1,127.0	1,159.3	1,169.5	1,224.9	1,264.1	1,270.9	1,311.0
Change in business inventories	25.0	63.2	57.4	79.0	51.0	66.5	91.4	38.2	55.7	44.2
Net exports of goods and services	-114.4	-136.1	-238.2	-131.6	-142.4	-149.0	-198.5	-245.2	-259.0	-250.0
Government consumption expenditures and gross investment	1,257.9	1,285.0	1,296.9	1,284.4	1,288.9	1,289.2	1,283.0	1,294.8	1,299.6	1,310.3
GDP implicit price deflator (% change)	1.9	1.9	1.0	1.6	1.2	1.2	0.8	0.9	1.0	0.8
Disposable personal income (\$ bil.)	5,534.7	5,795.1	6,027.9	5,767.9	5,821.8	5,879.4	5,937.1	5,988.9	6,052.4	6,133.1
Disposable pers. income (1992 \$ bil.)	5,043.0	5,183.1	5,348.5	5,167.5	5,198.4	5,235.8	5,287.1	5,321.5	5,364.1	5,421.2
Per capita disposable pers. income (\$)	20,840	21,633	22,304	21,558	21,709	21,871	22,046	22,192	22,373	22,604
Per capita disp. pers. income (1992 \$)	18,989	19,349	19,790	19,315	19,385	19,478	19,632	19,719	19,829	19,980
U.S. resident population plus Armed Forces overseas (mil.) ²	265.5	267.9	270.3	267.5	268.1	268.9	269.3	269.9	270.5	271.2
Civilian population (mil.) ²	263.9	266.4	268.8	266.0	266.6	267.3	267.8	268.4	269.0	269.7
	Annual			1998						1999
	1996	1997	1998	Feb	Sep	Oct	Nov	Dec	Jan	Feb
<i>Monthly data seasonally adjusted</i>										
Total industrial production (1992=100)	121.4	129.7	135.1	133.7	135.2	136.1	136.4	136.6	136.7	136.9
Leading economic indicators (1992=100)	102.1	103.9	105.5	105.2	105.6	105.7	106.2	106.4	106.9	107.1
Civilian employment (mil. persons) ³	126.7	129.6	131.5	137.4	131.8	131.9	132.1	132.5	133.4	133.1
Civilian unemployment rate (%) ³	4.5	4.9	4.5	4.6	4.5	4.5	4.4	4.3	4.3	4.4
Personal income (\$ bil. annual rate)	6,425.2	6,784.0	7,126.1	7,007.3	7,184.6	7,217.2	7,279.8	7,276.8	7,323.4	7,363.1
Money stock-M2 (daily avg.) (\$ bil.) ⁴	3,823.9	4,046.6	4,401.9	4,100.9	4,285.5	4,326.9	4,365.2	4,401.9	4,425.7	4,446.5
Three-month Treasury bill rate (%)	5.02	5.07	4.81	5.11	4.74	4.08	4.44	4.42	4.34	4.45
AAA corporate bond yield (Moody's) (%)	7.37	7.26	6.53	6.67	6.40	6.37	6.41	6.22	6.24	6.40
Total housing starts (1,000) ⁵	1,476.8	1,474.0	1,616.9	1,644	1,576	1,698	1,654	1,750	1,810	1,799
Business inventory/sales ratio ⁶	1.40	1.38	1.38	1.38	1.39	1.39	1.38	1.37	1.37	--
Sales of all retail stores (\$ bil.) ⁷	2,465.1	2,546.3	--	220.0	225.1	227.9	229.5	232.0	235.0	239.1
Nondurable goods stores (\$ bil.)	1,457.8	1,505.4	--	127.9	131.1	131.9	132.7	133.4	135.1	136.4
Food stores (\$ bil.)	424.2	432.1	--	36.2	37.2	37.4	37.5	37.8	37.8	38.4
Apparel and accessory stores (\$ bil.)	113.0	116.8	--	10.3	10.1	10.3	10.4	10.4	10.9	10.9
Eating and drinking places (\$ bil.)	238.4	244.1	--	20.2	20.7	21.1	21.3	21.4	21.3	21.6

-- = 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	2.0	2.3
less U.S.	3.0	1.6	1.3	3.1	2.9	3.7	3.3	1.2	1.5	2.8
Developed Economies	1.7	1.6	0.8	2.8	2.2	3.1	2.9	2.0	1.9	1.7
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	3.4	1.1
Canada	-1.9	0.9	2.3	4.7	2.6	1.2	3.8	3.0	2.8	3.2
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	2.9	3.0
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	-4.9	-0.4
Eastern Europe	-10.6	-4.0	0.8	3.5	5.5	3.1	1.7	1.9	1.5	3.0
Poland	-6.3	2.0	3.8	4.2	7.1	5.9	6.9	4.9	2.8	3.9
Former Soviet Union	-5.5	-13.7	-9.3	-13.9	-5.1	-5.1	0.6	-5.1	-9.1	-2.9
Russia	-5.0	-14.5	-8.7	-12.6	-4.1	-4.9	0.8	-5.6	-9.6	-3.6
Developing Economies	4.8	6.3	6.3	6.7	5.7	6.4	5.8	2.1	2.9	4.7
Asia	6.6	8.9	8.7	9.4	8.7	8.0	6.7	2.3	4.7	5.6
East Asia	8.7	10.8	10.6	10.7	9.3	8.4	7.8	4.5	6.4	6.5
China	9.3	14.2	13.5	12.6	10.5	9.6	8.8	7.8	8.0	7.4
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	5.5	-5.8	3.0	4.8
Southeast Asia	6.8	6.9	7.4	8.1	8.5	7.5	4.8	-6.5	-0.3	3.7
Indonesia	8.9	7.2	7.2	7.5	8.2	8.0	4.7	-14.7	-4.4	3.8
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	1.6	4.4
South Asia	1.2	5.6	4.6	7.0	6.9	7.1	5.1	3.7	3.6	4.4
India	0.5	5.4	4.9	7.5	7.3	7.5	5.4	4.0	4.0	4.7
Pakistan	5.5	7.8	1.9	3.9	5.1	4.6	3.0	2.0	1.0	2.5
Latin America	3.8	3.0	3.9	5.0	0.1	3.4	5.4	2.2	-1.6	2.9
Mexico	4.2	3.6	2.0	4.4	-6.2	5.1	7.0	4.6	2.3	2.6
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	-2.5	4.0
Middle East	2.9	5.5	3.5	0.3	3.5	4.5	3.9	0.9	1.3	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	0.5	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	3.1	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-Saharan	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	95.8	656.6	609.3	268.4	124.1	41.4	28.2	20.8	40.9	12.4
Developing Economies	36.4	38.7	47.3	51.6	22.3	14.1	9.4	10.4	8.8	7.5
Asia	8.2	7.2	11.1	15.9	12.8	7.9	4.8	8.0	4.7	4.5
Latin America	129.0	151.4	208.5	208.3	35.9	20.8	13.9	10.5	14.6	9.9
Middle East	27.5	25.6	24.6	31.9	35.9	24.6	23.1	23.8	19.7	19.4
Africa	24.4	32.4	30.8	37.5	34.1	26.7	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	Mar	Oct	Nov	Dec	Jan	Feb	Mar
1990-92=100										
Prices received										
All farm products	112	107	101	102	99	100	99	97	96	97
All crops	127	116	107	111	100	102	100	98	99	100
Food grains	157	128	103	118	100	105	101	101	101	101
Feed grains and hay	146	117	100	113	85	86	89	91	91	91
Cotton	122	112	107	105	110	107	100	96	92	90
Tobacco	105	104	104	104	107	109	110	111	112	112
Oil-bearing crops	128	131	107	114	93	101	102	96	88	82
Fruit and nuts, all	118	108	114	94	126	119	99	100	101	107
Commercial vegetables	111	122	120	124	134	111	110	107	115	119
Potatoes and dry beans	114	90	98	107	82	89	93	94	96	99
Livestock and products	99	98	96	95	98	97	97	96	94	94
Meat animals	87	92	79	82	75	72	66	75	77	78
Dairy products	114	102	118	110	135	137	138	133	119	115
Poultry and eggs	120	113	117	108	127	124	120	114	109	109
Prices paid										
Commodities and services, interest, taxes, and wage rates (PPITW)	114	117	115	116	114	114	113	115	115	115
Production items	114	117	112	114	110	110	110	111	111	111
Feed	129	123	105	112	95	96	96	97	96	94
Livestock and poultry	75	94	88	91	85	86	85	90	94	92
Seeds	115	119	122	120	123	123	123	123	123	123
Fertilizer	125	121	112	114	110	108	107	107	107	108
Agricultural chemicals	119	120	122	122	123	122	122	118	118	118
Fuels	102	108	87	89	86	83	72	74	71	76
Supplies and repairs	115	118	119	118	120	120	120	120	120	120
Autos and trucks	118	119	119	119	118	119	119	120	119	119
Farm machinery	125	129	132	131	133	133	133	133	133	133
Building material	115	118	118	118	118	118	118	118	118	119
Farm services	116	117	116	116	116	116	116	116	116	116
Rent	119	121	124	124	124	124	124	130	130	130
Int. payable per acre on farm real estate debt	105	107	108	108	108	108	108	111	111	111
Taxes payable per acre on farm real estate	112	115	119	119	119	119	119	122	122	122
Wage rates (seasonally adjusted)	117	123	129	131	131	131	131	136	136	136
Prod. items, interest, taxes & wage rates (PITW)	114	117	114	115	112	112	112	114	114	114
Ratio, prices received to prices paid (%)*	98	91	88	88	87	88	88	84	83	84
Prices received (1910-14=100)	712	679	643	649	630	633	626	617	612	613
Prices paid, etc. (parity index) (1910-14=100)	1,520	1,558	1,532	1,546	1,517	1,516	1,511	1,534	1,534	1,531
Parity ratio (1910-14=100) (%)*	47	44	42	42	42	42	41	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	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Crops										
All wheat (\$/bu.)	4.55	4.30	3.45	3.33	2.79	2.97	2.87	2.80	2.74	2.74
Rice, rough (\$/cwt)	9.15	9.96	9.64	9.67	9.25	8.98	9.06	9.05	8.97	8.93
Corn (\$/bu.)	3.24	2.71	2.60	2.55	1.91	1.93	2.01	2.06	2.05	2.04
Sorghum (\$/cwt)	5.69	4.17	4.00	4.02	2.96	3.05	2.98	3.05	3.16	3.13
All hay, baled (\$/ton)	82.20	95.80	102.50	95.30	85.20	81.40	78.40	78.80	79.00	78.50
Soybeans (\$/bu.)	6.72	7.35	6.50	6.40	5.18	5.40	5.37	5.32	4.80	4.55
Cotton, upland (¢/lb.)	75.40	69.30	66.90	63.90	66.40	65.10	60.70	58.30	56.00	54.40
Potatoes (\$/cwt)	6.77	4.93	5.68	6.41	4.47	4.81	5.20	5.32	5.61	5.82
Lettuce (\$/cwt) ²	23.50	14.70	17.30	13.40	21.30	9.82	11.90	10.30	15.40	18.30
Tomatoes, fresh (\$/cwt) ²	25.80	28.00	33.00	33.20	43.10	42.90	45.00	39.90	35.20	31.40
Onions (\$/cwt)	11.10	10.60	12.60	21.20	12.70	13.90	16.00	16.70	13.80	11.30
Beans, dry edible (\$/cwt)	20.80	23.50	17.70	20.20	19.60	20.80	20.50	19.80	18.40	17.70
Apples for fresh use (¢/lb.)	24.00	20.80	22.20	20.50	22.80	17.90	15.20	15.90	15.00	15.70
Pears for fresh use (\$/ton)	272.00	376.00	276.00	272.00	479.00	398.00	354.00	373.00	362.00	331.00
Oranges, all uses (\$/box) ³	4.23	5.01	4.57	5.14	5.42	5.87	4.74	5.15	5.60	6.02
Grapefruit, all uses (\$/box) ³	2.30	2.43	1.74	41.00	3.88	3.19	2.70	1.80	1.60	1.67
Livestock										
Cattle, all beef (\$/cwt)	61.80	58.70	63.10	61.30	58.00	58.10	56.80	59.00	60.60	62.10
Calves (\$/cwt)	73.10	58.40	78.90	89.80	75.70	77.50	80.20	83.20	86.90	86.50
Hogs, all (\$/cwt)	40.50	51.90	52.90	34.90	27.40	18.70	14.70	26.30	27.60	26.50
Lambs (\$/cwt)	78.20	88.20	90.30	70.10	67.30	62.20	64.50	68.20	67.20	--
All milk, sold to plants (\$/cwt)	12.78	14.75	13.36	14.40	17.60	17.90	18.00	17.40	15.50	15.00
Milk, manuf. grade (\$/cwt)	11.79	13.43	12.17	12.90	16.70	17.30	17.40	15.30	12.30	12.10
Broilers, live (¢/lb.)	34.40	38.10	37.70	35.20	43.90	41.50	39.00	37.90	36.60	35.80
Eggs, all (¢/doz.) ⁴	62.40	74.90	70.20	69.90	66.40	72.80	75.80	71.90	65.20	67.90
Turkeys (¢/lb.)	41.00	43.30	39.90	34.60	42.80	44.00	41.10	34.80	35.70	37.00

-- = 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	Mar	Oct	Nov	Dec	Jan	Feb	Mar
	<i>1982-84=100</i>									
Consumer Price Index, all items	156.9	160.5	163.0	162.2	164.0	164.0	163.9	164.3	164.5	165.0
CPI, all items less food	157.5	161.1	163.6	162.6	164.4	164.3	164.2	164.5	164.7	165.3
All food	153.3	157.3	160.7	159.7	162.0	162.1	162.3	163.6	163.3	163.3
Food away from home	152.7	157.0	161.1	159.9	162.3	162.6	163.0	163.5	163.8	164.2
Food at home	154.3	158.1	161.1	160.2	162.5	162.5	162.6	164.3	163.8	163.4
Meats ¹	140.2	144.4	141.6	142.2	141.3	141.4	140.2	139.4	140.6	140.3
Beef and veal	134.5	136.8	136.5	136.8	136.1	137.0	137.1	136.0	137.3	137.0
Pork	148.2	155.9	148.5	149.5	147.5	146.2	144.1	141.9	143.5	143.1
Poultry	152.4	156.6	157.1	155.1	161.1	159.6	159.3	158.5	157.4	158.3
Fish and seafood	173.1	177.1	181.7	180.3	183.1	183.1	183.7	183.6	184.3	183.5
Eggs	142.1	140.0	135.4	136.4	136.1	139.4	142.9	137.8	138.2	134.2
Dairy and related products ²	142.1	145.5	150.8	148.4	155.0	155.9	157.6	161.2	162.3	161.5
Fats and oils ³	140.5	141.7	146.9	142.2	156.8	155.1	151.9	150.5	150.9	149.4
Fresh fruits	234.4	236.3	246.5	235.9	251.8	249.6	258.7	267.4	257.8	257.4
Fresh vegetables	189.2	194.6	215.8	220.2	213.9	214.9	212.3	224.5	209.8	209.2
Potatoes	180.6	174.2	185.2	181.6	187.0	176.7	178.0	184.5	184.0	185.9
Cereals and bakery products	174.0	177.6	181.1	179.6	182.2	182.1	182.3	184.2	183.8	183.5
Sugar and sweets	143.7	147.8	150.2	150.8	150.5	149.6	150.1	151.7	151.3	151.0
Nonalcoholic beverages ⁴	128.6	133.4	133.0	134.2	132.6	132.7	131.7	133.5	134.5	134.5
Apparel										
Footwear	126.6	127.6	128.0	126.5	130.3	130.4	127.5	125.6	124.8	126.4
Tobacco and smoking products	232.8	243.7	274.8	254.1	284.9	281.3	331.2	354.2	348.7	335.9
Alcoholic beverages	158.5	162.8	165.7	165.1	166.6	166.8	167.2	167.6	168.6	168.4

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	Mar	Oct	Nov	Dec	Jan	Feb	Mar
1982=100										
All commodities	127.7	127.6	124.4	124.7	124.0	123.6	122.7	123.2	122.4	122.8
Finished goods ¹	131.3	131.8	130.6	130.1	131.4	130.9	131.0	131.5	130.9	131.2
All foods ²	132.5	132.8	132.4	131.5	133.8	133.3	132.3	133.6	131.5	132.1
Consumer foods	133.6	134.5	134.3	133.4	135.5	134.9	134.3	135.6	133.9	134.6
Fresh fruits and melons	100.8	99.4	90.0	86.3	93.1	87.4	86.6	103.6	106.3	100.5
Fresh and dry vegetables	135.0	123.1	139.5	156.9	148.4	124.5	137.9	124.4	95.2	114.4
Dried and dehydrated fruits	124.2	124.9	124.4	122.3	124.1	122.3	121.8	122.6	122.6	122.6
Canned fruits and juices	137.5	137.6	134.4	134.2	133.1	134.8	136.6	136.7	136.4	137.8
Frozen fruits, juices and ades	123.9	117.2	116.1	112.5	117.7	123.7	125.0	121.8	123.4	124.4
Fresh veg. except potatoes	120.9	121.3	137.9	148.2	161.9	131.2	148.1	131.9	93.1	117.4
Canned vegetables and juices	121.2	120.1	121.5	121.8	119.6	120.0	119.7	120.8	121.0	120.8
Frozen vegetables	125.4	125.8	125.4	124.8	125.6	125.5	125.1	125.6	126.2	125.5
Potatoes	133.9	106.1	122.5	120.9	126.0	120.7	120.7	132.3	124.8	121.7
Eggs for fresh use (1991=100)	105.1	97.1	90.1	98.6	92.0	100.2	102.9	94.0	83.5	89.5
Bakery products	169.8	173.9	175.8	175.1	176.3	176.4	176.7	177.4	178.1	177.3
Meats	109.0	111.6	101.4	100.0	98.1	97.2	95.6	100.0	98.3	100.1
Beef and veal	100.2	102.8	99.5	98.4	96.8	99.7	98.5	101.4	99.9	102.7
Pork	120.9	123.1	96.6	93.0	91.1	84.0	80.6	90.6	86.1	87.6
Processed poultry	119.8	117.4	120.7	116.8	124.6	123.4	117.1	114.9	113.0	113.6
Unprocessed and packaged fish	165.9	178.1	183.0	187.2	181.2	186.3	174.9	184.7	186.9	204.6
Dairy products	130.4	128.1	138.1	132.2	148.3	148.5	148.5	149.0	145.1	142.6
Processed fruits and vegetables	127.6	126.4	125.8	125.2	125.1	126.3	126.7	126.8	127.2	127.5
Shortening and cooking oil	138.5	137.8	143.4	140.0	150.5	151.5	148.2	--	--	--
Soft drinks	134.0	133.2	134.8	135.2	135.0	134.9	134.9	135.4	136.5	137.2
Finished consumer goods less foods	127.6	128.2	126.4	125.6	127.1	126.4	126.9	127.5	127.0	127.3
Alcoholic beverages	132.8	135.1	135.2	135.0	135.8	136.3	136.4	136.8	137.0	137.1
Apparel	125.1	125.7	126.6	126.4	127.1	126.9	126.7	126.8	126.8	126.3
Footwear	141.6	143.7	144.7	144.7	144.7	144.7	145.2	145.2	145.9	145.6
Tobacco products	237.4	248.9	283.4	262.0	288.0	288.8	363.9	363.0	363.0	363.5
Intermediate materials ³	125.8	125.6	123.0	123.3	122.3	121.8	121.1	121.2	120.5	120.8
Materials for food manufacturing	125.3	123.2	123.1	121.0	125.4	125.5	123.9	124.6	122.4	121.1
Flour	136.8	118.7	109.2	114.2	109.2	110.4	107.1	106.8	106.2	104.6
Refined sugar ⁴	123.7	123.6	119.8	120.7	120.0	120.3	119.7	118.5	120.2	122.6
Crude vegetable oils	118.1	116.6	131.1	134.9	124.2	130.9	121.5	123.7	112.0	95.1
Crude materials ⁵	113.8	111.1	96.7	99.4	94.0	93.6	88.8	90.9	87.9	89.5
Foodstuffs and feedstuffs	121.5	112.2	103.8	106.3	103.7	102.4	97.2	101.6	98.8	98.9
Fruits and vegetables and nuts ⁶	122.5	115.5	117.2	121.7	122.3	110.8	115.6	120.6	110.6	114.8
Grains	151.1	111.2	93.4	107.2	84.6	88.5	87.7	87.0	86.4	84.9
Slaughter livestock	95.2	96.3	82.3	85.4	78.7	74.9	67.3	79.3	81.0	83.6
Slaughter poultry, live	140.5	131.0	141.4	125.3	161.8	151.4	136.2	129.5	126.4	124.8
Plant and animal fibers	129.4	117.0	110.4	110.1	112.6	110.9	97.7	93.5	90.8	96.3
Fluid milk	107.9	97.5	112.6	103.0	127.7	130.5	133.5	130.4	117.2	110.2
Oilseeds	139.4	140.8	114.4	123.4	103.0	108.8	105.5	103.2	93.0	91.3
Leaf tobacco	89.4	--	104.6	106.7	109.6	112.0	112.6	112.4	112.6	114.6
Raw cane sugar	118.6	116.8	117.2	115.8	115.8	116.4	117.9	119.0	118.7	118.4

-- = 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	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Market basket ¹										
Retail cost (1982-84=100)	155.9	159.7	163.1	162.0	164.8	164.7	165.6	167.7	166.7	166.3
Farm value (1982-84=100)	111.1	106.2	103.3	102.2	106.3	104.2	101.4	99.5	99.0	96.9
Farm-retail spread (1982-84=100)	180.1	188.6	195.4	194.2	196.3	197.3	200.2	204.4	203.2	203.6
Farm value-retail cost (%)	24.9	23.3	22.2	22.1	22.6	22.2	21.4	20.8	20.8	20.4
Meat products										
Retail cost (1982-84=100)	140.1	144.4	141.6	142.2	141.3	141.4	140.2	139.4	140.6	140.3
Farm value (1982-84=100)	100.4	101.2	84.8	85.2	79.3	76.9	70.7	67.7	69.0	69.6
Farm-retail spread (1982-84=100)	180.9	188.6	200.0	200.7	204.9	207.6	211.5	212.9	214.1	212.9
Farm value-retail cost (%)	36.3	35.5	30.3	30.3	28.4	27.6	25.5	24.6	24.9	25.1
Dairy products										
Retail cost (1982-84=100)	142.1	145.5	150.8	148.4	155.0	155.9	157.6	161.2	162.3	161.5
Farm value (1982-84=100)	107.2	98.0	113.0	106.5	126.2	125.6	127.1	123.8	126.9	117.0
Farm-retail spread (1982-84=100)	174.3	189.3	185.6	187.0	181.6	183.8	185.7	195.7	194.9	202.5
Farm value-retail cost (%)	36.2	32.3	36.0	34.4	39.1	38.7	38.7	36.8	37.5	34.8
Poultry										
Retail cost (1982-84=100)	152.4	156.6	157.1	155.1	161.1	159.6	159.3	158.5	157.4	158.3
Farm value (1982-84=100)	126.2	120.6	126.1	112.2	139.7	133.8	125.6	119.6	116.5	114.9
Farm-retail spread (1982-84=100)	182.6	198.1	192.9	204.6	185.7	189.3	198.1	203.3	204.5	208.2
Farm value-retail cost (%)	44.3	41.2	42.9	38.7	46.4	44.9	42.2	40.4	39.6	38.9
Eggs										
Retail cost (1982-84=100)	142.1	140.0	137.1	141.0	136.1	139.4	142.9	137.8	138.2	134.2
Farm value (1982-84=100)	114.7	99.3	89.6	136.4	91.4	104.9	108.1	100.0	86.1	91.3
Farm-retail spread (1982-84=100)	191.4	213.0	222.5	218.0	216.3	201.5	205.4	205.6	231.8	211.3
Farm value-retail cost (%)	51.9	45.6	42.0	44.7	43.2	48.3	48.6	46.6	40.0	43.7
Cereal and bakery products										
Retail cost (1982-84=100)	174.0	177.6	181.1	179.6	182.2	182.1	182.3	184.2	183.8	183.5
Farm value (1982-84=100)	125.6	107.7	94.4	101.1	92.4	95.6	95.0	92.4	89.0	88.0
Farm-retail spread (1982-84=100)	180.7	187.4	193.2	190.6	194.7	194.2	194.5	197.0	197.0	196.8
Farm value-retail cost (%)	7.2	7.4	6.4	6.9	6.2	6.4	6.4	6.1	5.9	5.9
Fresh fruit										
Retail cost (1982-84=100)	243.0	245.1	258.2	245.6	265.9	262.7	283.5	295.3	283.0	282.9
Farm value (1982-84=100)	151.7	137.0	141.3	140.2	158.9	140.6	138.5	157.5	155.9	155.5
Farm-retail spread (1982-84=100)	285.2	295.0	312.2	294.3	315.3	319.1	350.4	358.9	341.7	341.7
Farm value-retail cost (%)	19.7	17.7	17.3	18.0	18.9	16.9	15.4	16.8	17.4	17.4
Fresh vegetables										
Retail cost (1982-84=100)	189.2	194.6	215.8	220.2	213.9	214.9	212.3	224.5	209.8	209.2
Farm value (1982-84=100)	113.3	118.7	124.5	125.2	132.4	123.1	120.6	124.5	121.5	122.6
Farm-retail spread (1982-84=100)	228.3	233.6	262.7	254.4	255.8	262.1	259.4	275.9	255.2	253.7
Farm value-retail cost (%)	20.3	20.7	19.6	20.2	21.0	19.5	19.3	18.8	19.7	19.9
Processed fruits and vegetables										
Retail cost (1982-84=100)	144.4	147.9	150.6	149.8	151.6	150.7	150.4	153.4	153.8	153.5
Farm value (1982-84=100)	121.5	115.9	115.1	114.4	115.2	115.6	116.0	114.3	113.6	113.1
Farm-retail spread (1982-84=100)	151.6	157.9	161.7	160.8	163.0	161.7	161.1	165.6	166.3	166.1
Farm value-retail cost (%)	20.0	18.6	18.2	18.2	18.1	18.2	18.3	17.7	17.6	17.5
Fats and oils										
Retail cost (1982-84=100)	140.5	141.7	146.9	142.2	156.8	155.1	151.9	150.5	150.9	149.4
Farm value (1982-84=100)	112.3	109.4	118.9	122.9	117.5	117.8	111.5	111.7	102.4	93.0
Farm-retail spread (1982-84=100)	150.9	153.6	157.2	149.3	171.3	168.8	166.8	164.8	168.7	170.1
Farm value-retail cost (%)	21.5	20.8	21.8	23.2	20.1	20.4	19.7	20.0	18.2	16.7

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			1998				1999		
	1996	1997	1998	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Beef, All Fresh Retail Price (cts/lb)	252.4	253.8	253.3	256.3	251.9	252.9	254.1	254.8	255.4	255.3
Beef, Choice										
Retail price (cents/lb.) ²	280.2	279.5	277.1	273.1	275.0	280.0	283.6	279.1	278.0	276.9
Wholesale value (cents) ³	158.1	158.2	153.8	147.0	156.4	158.1	150.4	156.3	153.7	160.3
Net farm value (cents) ⁴	134.9	137.2	130.8	129.9	130.9	131.5	125.5	130.1	132.8	139.9
Farm-retail spread (cents)	145.3	142.3	146.3	143.2	144.1	148.5	158.1	149.0	145.2	137.0
Wholesale-retail (cents) ⁵	122.1	121.3	123.3	126.1	118.6	121.9	133.2	122.8	124.3	116.6
Farm-wholesale (cents) ⁶	23.2	21.0	23.0	17.1	25.5	26.6	24.9	26.2	20.9	20.4
Farm value-retail price (%)	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.1
Pork										
Retail price (cents/lb.) ²	233.7	245.0	242.7	240.4	242.2	241.0	238.1	233.4	236.9	237.1
Wholesale value (cents) ³	123.2	123.1	97.3		93.3	84.6	81.1	95.6	91.0	89.2
Net farm value (cents) ⁴	99.4	95.3	61.2	65.6	52.1	35.0	29.3	50.7	52.6	50.2
Farm-retail spread (cents)	134.3	149.6	181.5	174.8	190.1	206.0	208.8	182.7	184.3	186.9
Wholesale-retail (cents) ⁵	110.5	121.9	145.4	143.3	148.9	156.4	157.0	137.8	145.9	147.9
Farm-wholesale (cents) ⁶	23.8	27.7	36.1	31.5	41.2	49.6	51.8	44.9	38.4	39.0
Farm value-retail price (%)	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5	42.5

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			
	1995	1996	1997	II	III	IV	I	II	III	IV
1987=100 ^a										
Labor—hourly earnings and benefits	455.2	459.7	474.3	473.0	474.6	480.2	484.9	488.3	493.0	494.6
Processing	472.5	474.7	486.0	484.9	487.1	490.5	493.8	497.7	500.7	504.8
Wholesaling	502.2	516.0	536.2	534.1	538.9	545.4	546.8	552.5	555.4	554.9
Retailing	417.1	419.9	435.2	434.1	433.6	441.1	448.7	450.6	457.8	459.6
Packaging and containers	415.7	399.8	390.3	388.7	387.6	392.9	398.5	396.7	394.9	391.9
Paperboard boxes and containers	392.1	363.8	341.9	335.4	334.7	350.3	365.4	368.7	366.8	359.8
Metal cans	504.9	498.3	491.0	496.1	490.8	487.9	494.1	484.7	486.0	486.6
Paper bags and related products	457.8	437.8	441.9	441.6	439.5	442.5	438.8	434.0	430.2	428.5
Plastic films and bottles	330.6	326.5	326.6	325.3	326.9	327.5	326.7	325.0	321.0	318.5
Glass containers	463.3	460.5	447.4	446.9	446.6	446.6	446.9	446.9	446.1	447.3
Metal foil	263.1	235.7	233.4	232.0	237.2	236.4	231.8	232.6	232.6	230.9
Transportation services	436.6	429.8	430.0	430.6	429.0	429.4	429.9	431.8	426.3	425.0
Advertising	539.1	580.1	609.4	608.7	609.3	611.6	623.2	624.2	624.5	626.2
Fuel and power	633.7	670.7	668.5	657.4	658.1	669.0	625.1	622.9	629.2	601.6
Electric	511.3	501.3	499.2	499.0	517.7	491.5	482.2	489.3	511.8	485.0
Petroleum	559.7	666.8	616.7	609.7	574.8	609.6	495.5	470.0	439.2	423.3
Natural gas	1,091.7	1,136.7	1,214.0	1,165.7	1,179.7	1,249.4	1,229.4	1,242.1	1,268.5	1,217.7
Communications, water and sewage	284.9	296.8	302.8	302.2	303.5	304.2	305.5	308.0	308.5	308.5
Rent	269.0	268.2	265.6	265.6	265.1	265.1	262.5	260.4	260.4	265.1
Maintenance and repair	486.1	499.6	514.9	513.0	517.3	519.7	524.1	527.1	531.1	535.1
Business services	491.0	501.7	512.3	511.7	513.9	514.1	518.4	521.2	521.8	522.7
Supplies	342.7	338.3	337.8	337.0	337.5	337.9	335.6	332.4	331.4	329.5
Property taxes and insurance	546.8	564.3	580.1	577.3	582.2	587.3	591.1	595.4	600.7	606.1
Interest, short-term	113.5	103.9	108.9	111.2	108.8	110.1	106.5	106.7	105.6	96.0
Total marketing cost index	444.8	452.1	459.9	458.4	459.1	463.4	465.3	466.9	468.6	467.9

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

Livestock & Products

Table 10—U.S. Meat Supply & Use

	Beg. stocks	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										
1995	548	25,222	2,103	27,873	1,821	519	25,533	67	0.695	66
1996	519	25,525	2,073	28,117	1,877	377	25,863	68	0.700	65
1997	377	25,490	2,343	28,210	2,136	465	25,609	67	0.700	66
1998	465	25,760	2,642	28,867	2,171	393	26,303	68	0.700	61
1999	393	25,646	2,705	28,744	2,380	370	25,994	67	0.700	63-66
Pork										
1995	438	17,849	664	18,951	787	396	17,768	52	0.776	42
1996	396	17,117	618	18,131	970	366	16,795	49	0.776	53
1997	366	17,274	633	18,273	1,044	408	16,821	49	0.776	54
1998	408	19,011	704	20,123	1,229	586	18,308	53	0.776	35
1999	586	18,925	700	20,211	1,335	475	18,401	52	0.776	35-37
Veal⁶										
1995	7	319	0	326	0	7	319	1	0.83	75
1996	7	378	0	385	0	7	378	1	0.83	59
1997	7	334	0	341	0	8	333	1	0.83	82
1998	8	262	0	270	0	5	265	1	0.83	82
1999	5	230	0	235	0	6	229	1	0.83	87
Lamb and mutton										
1995	11	287	64	362	6	8	348	1	0.89	76
1996	8	268	73	349	6	9	334	1	0.89	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	5	11	343	1	0.89	70
Total red meat										
1995	1,004	43,677	2,831	47,512	2,614	930	43,968	122	--	--
1996	930	43,288	2,764	46,982	2,853	759	43,370	120	--	--
1997	759	43,358	3,059	47,176	3,185	895	43,096	118	--	--
1998	895	45,284	3,458	49,637	3,406	996	45,235	123	--	--
1999	996	45,033	3,520	49,549	3,720	862	44,967	121	--	--
Broilers										
1995	458	24,827	1	25,287	3,894	560	20,832	69	0.869	56
1996	560	26,124	4	26,688	4,420	641	21,626	71	0.869	61
1997	641	27,041	5	27,687	4,664	607	22,416	73	0.869	59
1998	607	27,612	5	28,225	4,673	711	22,847	73	0.869	63
1999	711	29,180	4	29,895	4,425	750	24,720	79	0.869	59
Mature chickens										
1995	14	496	3	513	99	7	406	2	1.0	--
1996	7	491	0	498	265	6	228	1	1.0	--
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	525	0	533	426	6	101	1	1.0	--
1999	6	541	0	547	375	5	167	1	1.0	--
Turkeys										
1995	254	5,069	2	5,326	348	271	4,706	18	1.0	66
1996	271	5,401	1	5,673	438	328	4,906	19	1.0	66
1997	328	5,412	1	5,741	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	5,209	1	5,514	400	250	4,863	18	1.0	63
Total poultry										
1995	727	30,393	6	31,125	4,342	839	25,944	88	--	--
1996	839	32,015	5	32,859	5,123	975	26,760	90	--	--
1997	975	32,964	6	33,944	5,654	1,029	27,261	91	--	--
1998	1,029	33,352	6	34,387	5,545	1,021	27,822	92	--	--
1999	1,021	34,930	5	35,956	5,200	1,005	29,750	97	--	--
Red meat and poultry										
1995	1,731	74,070	2,837	78,637	6,956	1,769	69,912	210	--	--
1996	1,769	75,303	2,769	79,841	7,976	1,734	70,130	210	--	--
1997	1,734	76,322	3,065	81,120	8,839	1,924	70,357	209	--	--
1998	1,924	78,636	3,464	84,024	8,950	2,017	73,057	215	--	--
1999	2,017	79,963	3,525	85,505	8,920	1,867	74,717	218	--	--

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

Table 11—U.S. Egg Supply & Use

	Beg.	Production	Imports	Total	Exports	Hatching use	Ending stocks	Consumption		Primary market price*
	stocks			supply				Total	Per capita	
	Million doz.							No.	¢/doz.	
1992	13.0	5,905.0	4.3	5,922.3	157.0	732.0	13.5	5,019.8	235.9	65.4
1993	13.5	6,005.8	4.7	6,023.9	158.9	769.6	10.7	5,084.6	236.4	72.5
1994	10.7	6,177.6	3.7	6,192.0	187.6	805.4	14.9	5,184.1	238.7	67.3
1995	14.9	6,215.6	4.1	6,234.6	208.9	847.2	11.2	5,167.3	235.6	72.9
1996	11.2	6,350.7	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	894.8	7.4	5,358.6	240.0	81.2
1998	7.4	6,658.7	5.8	6,672.0	218.8	922.7	8.4	5,522.1	245.2	75.8
1999	8.4	6,830.0	4.0	6,842.4	209.0	970.0	5.0	5,658.4	249.1	72.5

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

Information contact: LaVerne Williams (202) 694-5190

Table 12—U.S. Milk Supply & Use¹

	Production	Commercial			Imports	Total commer- cial supply	Commercial				CCC net removals		
		Farm use	Farm Market- ings	Beg. stocks			CCC net re- movals	Ending stocks	Disap- pear- ance	All milk price ¹	Skim solids basis	Total solid basis ²	
Billion lbs. (milkfat basis)											\$/cwt	Billion lbs.	
1991	147.7	2.0	145.7	5.1	2.6	153.4	10.4	4.5	138.6	12.24	3.9	6.5	
1992	150.9	1.9	149.0	4.5	2.5	155.9	9.9	4.7	141.3	13.09	2.0	5.2	
1993	150.6	1.8	148.8	4.7	2.8	156.3	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	15.38	4.0	2.6	
1999	162.2	1.3	160.9	5.3	3.3	169.5	0.5	5.0	164.0	13.55	4.6	3.0	

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	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Broilers										
Federally inspected slaughter certified (mil. lb.)	26,336.3	27,270.7	27,862.7	2,144.9	2,322.1	2,496.9	2,192.4	2,395.3	2,426.9	2,250.9
Wholesale price, 12-city (cents/lb.)	61.2	58.8	63.1	56.4	70.5	68.0	64.1	60.4	59.3	58.2
Price of grower feed (\$/ton) ¹	175.5	156.3	128.6	143.0	112.0	113.0	115.0	116.0	117.0	109.0
Broiler-feed price ratio ²	4.4	4.7	6.3	4.8	8.2	7.8	7.2	6.7	6.5	6.7
Stocks beginning of period (mil. lb.)	560.1	641.3	606.8	652.7	557.2	598.0	614.0	657.8	711.1	709.4
Broiler-type chicks hatched (mil.)	8,076.9	8,322.5	8,485.4	644.5	692.9	692.9	673.9	733.8	735.3	661.7
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,465.6	5,477.9	5,280.6	410.9	429.5	474.3	461.6	431.1	410.9	359.9
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.5	64.9	62.2	54.0	65.6	71.5	73.0	69.0	57.7	58.8
Price of turkey grower feed (\$/ton) ¹	166.1	143.0	115.6	131.0	99.0	103.0	106.0	107.0	107.0	101.0
Turkey-feed price ratio ²	5.3	5.6	6.7	5.2	8.1	8.3	8.3	7.7	6.5	7.1
Stocks beginning of period (mil. lb.)	271.3	328.0	415.1	497.6	706.8	699.5	658.7	310.4	304.3	363.9
Poults placed in U.S. (mil.)	327.2	321.5	297.8	25.1	21.1	22.8	22.2	25.0	24.4	23.7
Eggs										
Farm production (mil.)	76,532	77,677	79,905	6,109	6,480	6,791	6,723	7,029	6,971	6,287
Average number of layers (mil.)	299	304	313	313	311	315	319	321	322	323
Rate of lay (eggs per layer on farms)	256.2	255.3	255.4	19.5	20.8	21.6	21.1	21.9	21.6	19.5
Cartoned price, New York, grade A large (cents/doz.) ³	88.2	81.2	75.8	72.4	77.0	78.9	83.6	82.7	79.9	69.6
Price of laying feed (\$/ton) ¹	184.4	160.1	137.7	156.0	119.0	118.0	116.0	118.0	123.0	123.0
Egg-feed price ratio ²	8.5	8.8	9.8	8.3	10.7	11.3	12.6	12.8	11.7	10.6
Stocks, first of month										
Frozen (mil. doz.)	10.5	7.7	7.4	9.1	6.8	6.2	6.9	7.1	8.4	8.4
Replacement chicks hatched (mil.)	401.6	425.0	440.5	34.6	38.6	35.0	30.8	35.4	35.7	35.6

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

Table 14—Dairy

	Annual			1998					1999	
	1996	1997	1998	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Milk--Basic Formula Price (\$/cwt) ¹	13.39	12.05	14.20	13.32	15.10	16.04	16.84	17.34	16.27	10.27
Wholesale prices										
Butter, Central States (cents/lb.) ²	108.2	116.2	177.6	139.7	273.1	242.3	187.9	140.8	144.4	133.1
Am. cheese, Wis. assembly pt. (cents/lb.)	149.1	132.4	158.1	144.7	171.0	183.5	188.7	192.4	162.3	131.5
Nonfat dry milk (cents/lb.) ³	122.2	110.0	106.9	105.2	110.1	111.8	112.5	114.9	108.9	104.4
USDA net removals										
Total (mil. lb.) ⁴	86.9	1,090.3	365.6	61.9	15.2	13.7	14.1	20.6	21.1	22.7
Butter (mil. lb.)	0.1	38.4	6.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Am. cheese (mil. lb.)	4.6	11.3	8.2	0.7	0.7	0.6	0.7	0.9	0.7	0.5
Nonfat dry milk (Mil. lb.)	57.2	298.0	326.5	31.7	19.5	15.8	9.7	24.0	23.5	33.3
Milk										
Milk prod. 20 states (mil. lb.)	131,084	133,314	134,930	10,394	10,672	11,125	10,829	11,481	11,720	10,809
Milk per cow (lb.)	16,726	17,180	17,501	1,347	1,386	1,446	1,407	1,489	1,521	1,403
Number of milk cows (1,000)	7,837	7,760	7,710	7,716	7,701	7,695	7,697	7,708	7,704	7,702
U.S. milk production (mil. lb.) ⁵	154,006	156,091	157,441	12,188	12,411	12,961	12,611	13,365	13,684	12,615
Stocks, beginning ⁴										
Total (mil. lb.)	4,168	4,714	4,907	5,432	6,213	5,834	5,467	5,153	5,301	5,925
Commercial (mil. lb.)	4,099	4,704	4,889	5,417	6,173	5,793	5,433	5,126	5,274	5,893
Government (mil. lb.)	69	10	18	15	40	40	34	28	27	32
Imports, total (mil. lb.) ⁴	2,911	2,698	4,591	215	422	548	381	481	362	--
Commercial disappearance (mil. lb.) ⁴	154,731	156,085	159,931	11,923	13,087	13,740	13,174	13,563	13,297	--
Butter										
Production (mil. lb.)	1,174.5	1,151.2	1,053.4	102.7	67.1	83.2	87.2	101.6	123.3	111.5
Stocks, beginning (mil. lb.)	15.8	13.4	20.5	34.2	41.1	34.1	31.2	28.7	25.9	60.8
Commercial disappearance (mil. lb.)	1,179.8	1,108.7	1,095.7	92.1	80.6	95.8	93.1	104.9	89.3	--
American cheese										
Production (mil. lb.)	3,280.8	3,285.2	3,305.9	261.1	245.4	254.6	269.7	297.7	289.7	277.3
Stocks, beginning (mil. lb.)	379.6	410.3	407.6	406.9	441.4	417.3	394.5	388.5	407.6	390.8
Commercial disappearance (mil. lb.)	3,229.7	3,268.6	3,329.8	258.3	271.0	277.1	276.0	285.3	308.5	--
Other cheese										
Production (mil. lb.)	3,936.7	4,043.8	4,176.8	313.0	334.5	366.6	365.1	370.0	349	323.0
Stocks, beginning (mil. lb.)	105.3	107.3	70.0	102.4	135.2	135.5	128.0	105.9	109.5	108.9
Commercial disappearance (mil. lb.)	4,242.9	4,365.5	4,451.3	321.2	362.2	410.8	418.5	404.2	372.5	--
Nonfat dry milk										
Production (mil. lb.)	1,061.8	1,271.6	1,123.7	97.0	59.9	70.0	70.0	107.1	120.0	119.2
Stocks, beginning (mil. lb.)	70.6	71.1	103.3	104.1	78.1	64.4	45.9	41.6	56.2	82.4
Commercial disappearance (mil. lb.)	1,009.5	894.1	853.7	64.1	54.7	73.4	65.2	71.9	71.5	--
Frozen dessert										
Production (mil. gal.) ⁶	1,240.9	1,281.4	1,272.5	91.7	112.2	94.1	76.3	82.0	80.9	90.3
	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	40,471
Milk per cow (lb.)	16,433	16,871	17,192	4,195	4,144	4,268	4,451	4,210	4,261	4,431
No. of milk cows (1,000)	9,372	9,252	9,158	9,236	9,200	9,176	9,171	9,149	9,137	9,134
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	--	30,638	32,794	29,208	29,579	21,861	17,395	--
Carpet wool (1,000 lb.)	12,311	13,576	--	3,395	3,420	3,549	3,729	3,697	4,066	--

-- = 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 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	13.7	13.3	709	19.7	23.2	--	11.2	9.4	20.6	2.7	72.0
1996/97	0.3	16.9	16.0	537	17.9	21.0	--	10.6	7.7	18.3	2.6	75.4
1997/98	--	14.7	12.9	705	18.9	22.0	--	11.1	6.9	18.0	4.0	69.3
1998/99*	--	13.9	13.4	673	18.8	22.8	--	11.3	7.5	18.8	3.9	65.2
1999/00*	--	13.4	10.7	623	13.9	18.1	--	10.4	4.2	14.6	3.5	--

-- = Not available or not applicable. *April 9, 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	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Wheat, no. 1 HRW, Kansas City (\$/bu.) ²	4.88	3.71	--	3.64	2.81	3.30	3.42	3.31	3.27	3.05
Wheat, DNS, Minneapolis (\$/bu.) ³	4.96	4.31	--	4.15	3.53	4.03	4.15	3.97	3.92	3.78
Rice, S.W. La. (\$/cwt) ⁴	20.34	18.92	--	19.00	17.50	17.50	17.63	17.63	17.50	17.06
Corn, no. 2 yellow, 30-day, Chicago (\$/bu.) ⁵	2.84	2.56	--	2.72	1.84	2.00	2.16	2.16	2.16	2.15
Sorghum, no. 2 yellow, Kansas City (\$/cwt) ⁵	4.54	4.11	--	4.36	2.98	3.17	3.45	3.41	3.41	3.43
Barley, feed, Duluth (\$/bu.)	2.32	1.90	--	1.56	--	--	--	--	--	--
Barley, malting Minneapolis (\$/bu.)	3.18	2.50	--	--	--	--	--	--	--	--
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.) ⁶	71.60	67.79	--	63.66	71.75	67.61	64.95	59.88	56.20	55.46
Northern Europe prices cotton index (¢/lb.) ⁷	78.66	72.11	--	68.68	66.16	61.12	56.53	56.02	55.78	56.26
U.S. M 1-3/32 in. (¢/lb.) ⁸	82.86	77.98	--	74.50	77.75	72.95	71.50	71.25	--	--
Soybeans, no. 1 yellow, 30-day Chicago (\$/bu)	7.38	6.51	--	6.75	5.01	5.26	5.52	5.55	5.29	4.86
Soybean oil, crude, Decatur (¢/lb.)	22.50	24.69	--	26.51	25.13	25.21	25.20	23.99	22.88	19.96
Soybean meal, 48% protein, Decatur (\$/ton)	270.90	276.78	--	192.75	135.80	135.70	144.50	146.40	138.80	132.30

-- = 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 Cotlook "A" Index; average of 5 lowest prices of 13 selected growths. 8. Cotton, Memphis territory growths. *Information contacts: Wheat, rice, and feed, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

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									
	Mil. Acres	Bu./acre									

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												
1994/95	1.7	13.7	13.3	709	19.7	23.2	--	11.2	9.4	20.6	2.7	72.0
1995/96	0.3	16.9	16.0	537	17.9	21.0	--	10.6	7.7	18.3	2.6	75.4
1996/97	--	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	623	13.9	18.1	--	10.4	4.2	14.6	3.5	--

-- = Not available or not applicable. *April 9, 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	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Wheat, no. 1 HRW, Kansas City (\$/bu.) ²	4.88	3.71	--	3.64	2.81	3.30	3.42	3.31	3.27	3.05
Wheat, DNS, Minneapolis (\$/bu.) ³	4.96	4.31	--	4.15	3.53	4.03	4.15	3.97	3.92	3.78
Rice, S.W. La. (\$/cwt) ⁴	20.34	18.92	--	19.00	17.50	17.50	17.63	17.63	17.50	17.06
Corn, no. 2 yellow, 30-day, Chicago (\$/bu.) ⁵	2.84	2.56	--	2.72	1.84	2.00	2.16	2.16	2.16	2.15
Sorghum, no. 2 yellow, Kansas City (\$/cwt) ⁵	4.54	4.11	--	4.36	2.98	3.17	3.45	3.41	3.41	3.43
Barley, feed, Duluth (\$/bu.)	2.32	1.90	--	1.56	--	--	--	--	--	--
Barley, malting Minneapolis (\$/bu.)	3.18	2.50	--	--	--	--	--	--	--	--
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.) ⁶	71.60	67.79	--	63.66	71.75	67.61	64.95	59.88	56.20	55.46
Northern Europe prices cotton index (¢/lb.) ⁷	78.66	72.11	--	68.68	66.16	61.12	56.53	56.02	55.78	56.26
U.S. M 1-3/32 in. (¢/lb.) ⁸	82.86	77.98	--	74.50	77.75	72.95	71.50	71.25	--	--
Soybeans, no. 1 yellow, 30-day Chicago (\$/bu)	7.38	6.51	--	6.75	5.01	5.26	5.52	5.55	5.29	4.86
Soybean oil, crude, Decatur (¢/lb.)	22.50	24.69	--	26.51	25.13	25.21	25.20	23.99	22.88	19.96
Soybean meal, 48% protein, Decatur (\$/ton)	270.90	276.78	--	192.75	135.80	135.70	144.50	146.40	138.80	132.30

-- = 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 Cotlook "A" Index; average of 5 lowest prices of 13 selected growths. 8. Cotton, Memphis territory growths. *Information contacts: Wheat, rice, and feed, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

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

	Target price	Basic loan rate	Findley or announced loan rate ¹	Total deficiency payment rate	Effective base acres ²	Program ³	Flexibility contract payment rate	Acres under contract	Contract payment yields	Partici- pation rate ⁴
		\$/bu.			Mil. acres	Percent of base	\$/bu.	Mil. acres	Bu./cwt	Percent
Wheat										
1994/95	4.00	2.72	2.58	0.61	78.10	0/0/0	--	--	--	87
1995/96	4.00	2.69	2.58	0.00	77.70	0/0/0	--	--	--	85
1996/97	--	--	2.58	--	--	--	0.874	76.7	34.70	99
1997/98	--	--	2.58	--	--	--	0.631	76.7	34.70	--
1998/99 ⁵	--	--	2.58	--	--	--	0.663	78.9	34.50	--
		\$/cwt					\$/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.					\$/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.					\$/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.					\$/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.					\$/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.					\$/bu.			
Soybeans ⁸										
1994/95	--	--	4.92	--	--	--	--	--	--	--
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
1998/99	--	--	5.26	--	--	--	--	--	--	--
		¢/lb.					¢/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 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				
	Feb	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Grower prices										
Apples (¢/pound) ⁴	20.8	16.3	16.1	19.0	22.7	22.8	17.9	15.2	15.9	15.0
Pears (¢/pound) ⁴	13.00	17.65	20.25	22.85	21.00	23.95	19.90	17.70	18.65	18.10
Oranges (\$/box) ⁵	3.73	6.70	6.71	5.37	4.97	5.42	5.87	4.74	5.15	5.60
Grapefruit (\$/box) ⁵	1.61	3.58	3.66	6.01	11.09	3.88	3.19	2.70	1.80	1.60
Stocks, ending										
Fresh apples (mil. lb.)	2,841	637	322	133	3,457	6,796	5,914	5,008	4,169	3,407
Fresh pears (mil. lb.)	212	4	0	94	534	513	384	311	237	177
Frozen fruits (mil. lb.)	1,003	836	1,040	1,028	1,050	1,280	1,353	1,209	1,103	1,013
Frozen conc.orange juice (mil. single-strength gallons)	828	1,003	918	827	736	600	629	731	825	881

-- = 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				
	Mar	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Shipments (1,000 cwt)										
Fresh	20,292	26,104	18,422	18,851	15,727	18,842	21,813	19,681	19,644	26,297
Iceberg lettuce	3,094	4,021	3,099	3,900	3,049	3,179	3,549	3,068	2,854	3,721
Tomatoes, all	3,647	2,858	2,667	2,927	2,568	2,719	3,497	3,496	3,373	4,588
Dry-bulb onions	2,753	3,255	3,278	3,783	3,049	3,084	3,423	2,896	2,845	3,825
Others ⁶	10,798	15,970	9,378	8,241	7,061	9,860	11,344	10,221	10,572	14,163
Potatoes, all	15,619	12,734	9,569	12,695	11,498	11,734	13,483	12,819	11,691	18,522
Sweet potatoes	252	140	96	289	326	738	448	263	227	462

-- = 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			
	1995	1996	1997	II	III	IV	I	II	III	IV	
Sugar											
Production ¹	7,978	7,268	7,418	679	576	4,088	2,376	824	733	3,959	
Deliveries ¹	9,451	9,633	9,755	2,430	2,641	2,469	2,261	2,465	2,616	2,508	
Stocks, ending ¹	2,908	3,195	3,376	2,734	1,487	3,377	3,917	2,881	1,679	3,423	
Coffee											
Composite green price ²											
N.Y. (¢/lb.)	142.18	109.35	146.49	172.99	143.29	134.89	143.58	117.73	98.57	97.83	
		Annual			1998			1999			
	1995	1996	1997	Mar	Oct	Nov	Dec	Jan	Feb	Mar	
Tobacco											
Avg. price to grower ³											
Flue-cured (\$/lb.)	1.79	1.83	1.73	--	1.87	1.81	--	--	--	--	
Burley (\$/lb.)	1.85	1.92	1.86	1.76		1.92	1.92	1.90	1.85	1.74	
Domestic taxable removals											
Cigarettes (bil.)	486.0	471.4	348.6	40.2	--	--	--	--	--	--	
Large cigars (mil.) ⁴	3,166.4	3,552.9	2,816.3	325.6	--	--	--	--	--	--	

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

World Agriculture

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

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99 F
<i>Million units</i>										
Wheat										
Area (hectares)	225.8	231.4	222.5	223.2	222.3	215.4	220.0	231.0	229.5	225.9
Production (metric tons)	533.2	588.0	542.9	562.4	559.0	524.8	538.6	582.8	610.1	587.1
Exports (metric tons) ¹	103.8	101.1	111.2	113.0	101.4	100.8	98.8	101.3	100.6	95.0
Consumption (metric tons) ²	532.7	561.9	555.5	550.3	561.9	547.6	550.5	576.5	584.4	591.8
Ending stocks (metric tons) ³	118.9	145.1	132.5	144.5	141.5	118.7	106.8	113.1	138.8	134.1
Coarse grains										
Area (hectares)	321.9	316.3	321.9	323.8	317.2	322.7	313.7	322.3	310.4	308.0
Production (metric tons)	793.7	828.7	810.5	872.0	799.7	871.6	802.7	907.2	880.8	878.1
Exports (metric tons) ¹	104.7	89.1	95.6	91.9	85.3	98.5	88.3	94.0	86.5	89.7
Consumption (metric tons) ²	817.7	817.1	809.7	844.0	839.3	858.3	842.0	877.3	872.9	873.2
Ending stocks (metric tons) ³	123.2	134.8	135.6	163.4	123.8	137.1	97.7	127.6	135.5	140.4
Rice, milled										
Area (hectares)	146.5	146.6	147.3	146.4	145.0	147.4	148.0	149.8	150.6	149.1
Production (metric tons)	343.9	352.0	354.7	355.6	355.4	364.6	371.3	380.4	386.2	378.4
Exports (metric tons) ¹	11.7	12.1	14.1	15.0	16.4	21.0	19.7	19.0	27.7	21.7
Consumption (metric tons) ²	338.2	347.4	356.4	357.8	358.5	366.8	371.5	379.7	384.5	384.5
Ending stocks (metric tons) ³	54.5	59.1	57.5	55.3	52.3	50.1	49.9	50.6	52.3	46.2
Total grains										
Area (hectares)	694.2	694.3	691.7	693.4	684.5	685.5	681.7	703.1	690.5	683.0
Production (metric tons)	1,670.8	1,768.7	1,708.1	1,790.0	1,714.1	1,761.0	1,712.6	1,870.4	1,877.1	1,843.6
Exports (metric tons) ¹	220.2	202.3	220.9	219.9	203.1	220.3	206.8	214.4	214.8	206.4
Consumption (metric tons) ²	1,688.6	1,726.4	1,721.6	1,752.1	1,759.7	1,772.7	1,764.0	1,833.5	1,841.8	1,849.5
Ending stocks (metric tons) ³	296.6	339.0	325.6	363.2	317.6	306.0	254.4	291.3	326.6	320.7
Oilseeds										
Crush (metric tons)	171.7	176.7	185.1	184.4	190.1	208.1	217.5	219.0	229.2	237.0
Production (metric tons)	212.4	215.7	224.3	227.5	229.4	261.9	258.4	261.8	286.3	294.2
Exports (metric tons)	35.6	33.4	37.6	38.2	38.7	44.1	44.4	49.4	53.9	53.9
Ending stocks (metric tons)	23.7	23.4	21.9	23.6	20.3	27.2	22.1	17.1	23.9	30.9
Meals										
Production (metric tons)	116.8	119.3	125.2	125.2	131.7	142.1	147.4	149.2	156.1	161.3
Exports (metric tons)	39.8	40.7	42.2	40.8	44.9	46.7	49.7	50.4	51.6	53.9
Oils										
Production (metric tons)	57.1	58.1	60.6	61.1	63.7	69.6	73.2	75.6	76.9	80.3
Exports (metric tons)	20.4	20.5	21.3	21.3	24.3	27.1	26.0	28.9	29.7	29.9
Cotton										
Area (hectares)	31.6	33.2	34.8	32.6	30.6	32.2	35.9	33.8	33.6	32.8
Production (bales)	79.7	87.1	95.7	82.5	76.7	85.9	93.0	89.6	91.6	85.3
Exports (bales)	31.3	29.6	28.5	25.5	26.8	28.4	27.8	26.8	26.6	23.9
Consumption (bales)	86.9	85.5	85.9	85.8	85.3	85.5	86.9	89.1	88.2	85.0
Ending stocks (bales)	25.3	27.8	37.6	35.1	27.0	30.0	35.8	38.2	41.5	42.2
	1990	1991	1992	1993	1994	1995	1996	1997	1998 F	1999 F
Red meat⁴										
Production (metric tons)	111.9	117.3	117.3	119.3	124.6	130.2	125.0	128.5	132.9	133.8
Consumption (metric tons)	118.3	115.7	115.7	118.3	123.6	128.8	122.5	126.1	130.2	131.6
Exports (metric tons) ¹	6.5	7.4	7.4	7.4	8.1	8.2	8.5	9.0	8.8	8.9
Poultry⁴										
Production (metric tons)	39.6	38.0	38.0	40.5	43.2	46.7	49.5	51.8	53.1	55.2
Consumption (metric tons)	38.4	37.0	37.0	39.4	42.0	45.3	47.7	49.9	51.1	53.0
Exports (metric tons) ¹	2.8	2.4	2.4	2.8	3.6	4.6	5.2	5.7	5.7	5.5
Dairy										
Milk production (metric tons) ⁵	377.6	378.4	378.4	377.6	378.4	380.8	379.9	381.5	384.9	387.5

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	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Export commodities										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	5.63	4.35	3.44	3.79	3.43	3.57	3.44	3.41	3.17	3.21
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	4.17	2.98	2.59	2.90	2.43	2.47	2.43	2.48	2.40	2.46
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	3.90	2.89	2.54	2.83	2.29	2.37	2.33	2.32	2.31	2.35
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	7.88	7.94	6.37	6.83	5.73	6.01	5.88	5.65	5.19	5.02
Soybean oil, Decatur (¢/lb.)	23.75	23.33	25.78	27.09	25.21	25.21	23.99	22.88	19.96	18.54
Soybean meal, Decatur, (\$/ton)	246.67	266.70	162.74	174.20	135.70	144.45	146.45	138.82	132.32	133.00
Cotton, 7-market avg. spot (¢/lb.)	77.93	69.62	67.04	67.04	67.61	64.98	59.88	56.20	55.46	58.17
Tobacco, avg. price at auction (¢/lb.)	183.20	182.74	179.77	181.47	186.53	181.01	191.02	192.51	195.04	195.04
Rice, f.o.b., mill, Houston (\$/cwt)	19.64	20.88	18.95	19.05	18.25	18.50	18.50	18.44	18.22	18.08
Inedible tallow, Chicago (¢/lb.)	20.13	20.75	17.67	17.58	16.98	16.90	16.70	16.30	12.53	11.18
Import commodities										
Coffee, N.Y. spot (\$/lb.)	1.29	2.05	1.39	1.62	1.11	1.23	1.17	1.11	1.02	1.04
Rubber, N.Y. spot (¢/lb.)	72.88	55.40	40.57	41.70	40.26	39.99	38.24	38.99	38.58	36.34
Cocoa beans, N.Y. (\$/lb.)	0.62	0.69	0.72	0.74	0.71	0.67	0.64	0.61	0.59	0.55

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

Table 25—Trade Balance

	Fiscal Year			1998					1999	
	1997	1998	1999 P	Feb	Sep	Oct	Nov	Dec	Jan	Feb
\$ million										
Exports										
Agricultural	57,365	53,730	49,000	4,727	3,467	4,859	4,671	4,827	3,891	3,870
Nonagricultural	569,892	584,077	--	47,035	48,056	51,298	49,144	50,071	44,557	45,793
Total ¹	627,257	637,807	--	51,762	51,523	56,157	53,815	54,898	48,448	49,663
Imports										
Agricultural	35,798	37,007	38,000	3,108	2,919	3,120	2,912	3,191	3,098	3,006
Nonagricultural	829,548	859,737	--	65,368	74,754	80,463	74,535	72,816	68,193	70,988
Total ²	865,346	896,744	--	68,476	77,673	83,583	77,447	76,007	71,291	73,994
Trade Balance										
Agricultural	21,567	16,723	11,000	1,619	548	1,739	1,759	1,636	793	864
Nonagricultural	-259,656	-275,660	--	-18,333	-26,696	-29,165	-25,391	-22,745	-23,636	-25,195
Total	-238,089	-258,937	--	-16,714	-26,150	-27,426	-23,632	-21,109	-22,843	-24,331

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	Feb	Sep P	Oct P	Nov P	Dec P	Jan P	Feb P
<i>1990=100</i>										
Total U.S. trade	100.8	111.9	115.1	116.3	113.4	109.3	111.4	110.5	109.5	109.4
Agricultural trade										
U.S. markets	101.0	109.6	115.5	114.6	118.5	113.8	113.2	111.8	110.3	110.6
U.S. competitors	98.7	109.1	113.9	115.6	112.3	109.0	110.4	110.1	110.6	111.1
High-value products										
U.S. markets	100.4	108.2	111.9	109.8	114.9	110.7	110.2	109.1	107.6	108.1
U.S. competitors	100.1	110.9	114.6	116.5	112.6	109.2	111.1	110.6	110.5	110.4
Corn										
U.S. markets	96.4	107.1	113.3	112.0	116.4	109.0	107.8	106.1	104.3	105.9
U.S. competitors	90.1	97.4	100.2	100.8	99.1	97.0	98.0	98.0	97.6	97.2
Soybeans										
U.S. markets	96.0	107.9	113.9	114.9	114.6	108.6	108.6	107.0	105.8	106.0
U.S. competitors	80.8	82.2	84.9	83.9	86.3	86.7	87.0	87.3	95.5	105.7
Wheat										
U.S. markets	100.7	105.4	112.2	111.9	114.8	111.9	110.6	109.8	111.6	112.2
U.S. competitors	102.1	109.8	116.0	114.8	116.7	114.5	115.3	115.5	114.5	113.6
Vegetables										
U.S. markets	105.6	112.4	117.8	115.2	121.2	118.5	117.7	117.0	115.6	115.5
U.S. competitors	100.5	112.0	114.1	116.9	111.7	108.3	110.0	109.3	108.7	107.9
Red meats										
U.S. markets	93.3	100.4	109.0	106.6	112.8	105.3	104.3	102.1	99.5	100.9
U.S. competitors	98.0	107.9	112.8	113.5	111.7	108.5	110.0	110.0	109.8	110.1
Fruits & fruit juices										
U.S. markets	101.3	111.3	114.1	111.9	116.6	112.8	112.6	111.8	110.3	110.7
U.S. competitors	98.2	107.2	111.7	112.9	110.9	107.9	108.7	108.7	109.8	111.4
Cotton										
U.S. markets	95.5	105.7	123.8	127.7	124.0	116.7	114.5	112.5	112.5	113.5
U.S. competitors	101.6	103.0	106.8	106.2	108.1	105.4	105.1	105.4	104.9	105.1
Poultry										
U.S. markets	102.8	111.9	109.2	104.2	118.0	116.8	115.5	116.6	116.9	115.4
U.S. competitors	99.1	106.3	111.9	111.0	114.7	111.2	110.5	110.2	110.2	110.7

P = preliminary. 1. Real indexes adjust nominal exchange rates to avoid the distortion caused by different levels of inflation among countries. A higher value means the dollar has appreciated. 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			Feb		Fiscal Year			Feb	
	1997	1998	1999 P	1998	1999	1997	1998	1999 P	1998	1999
	1,000 units					\$ million				
EXPORTS										
Animals, live	--	--	--	--	--	508	538	--	42	22
Meats and preps., excl. poultry (mt) ¹	1,823	2,064	1,700	161	163	4,438	4,507	4,200	346	362
Dairy products	--	--	--	--	--	869	925	900	84	69
Poultry meats (mt)	2,553	2,663	2,300	215	192	2,516	2,347	1,900	183	129
Fats, oils, and greases (mt)	1,056	1,365	1,300	92	130	543	655	--	45	56
Hides and skins, incl. furskins	--	--	--	--	--	1,693	1,358	1,400	116	94
Cattle hides, whole (no.)	20,761	18,992	--	1,667	1,500	1,232	969	--	81	72
Mink pelts (no.)	3,600	2,990	--	341	445	96	83	--	7	9
Grains and feeds (mt) ²	95,091	87,289	--	7,325	7,800	16,368	13,961	13,800	1,226	1,120
Wheat (mt) ³	24,526	25,791	28,500	1,875	1,736	4,117	3,759	3,900	283	231
Wheat flour (mt)	511	465	600	54	65	141	117	--	12	14
Rice (mt)	2,560	3,310	3,200	412	310	959	1,132	1,100	143	109
Feed grains, incl. products (mt) ⁴	53,796	44,564	49,400	4,039	4,574	7,166	5,187	4,800	498	468
Feeds and fodders (mt)	12,295	11,704	11,900	846	958	2,688	2,421	2,300	187	188
Other grain products (mt)	1,404	1,455	--	100	156	1,295	1,345	--	103	110
Fruits, nuts, and preps. (mt)	3,830	3,633	--	265	285	4,261	3,977	4,200	253	273
Fruit juices, incl.										
froz. (1,000 hectoliters)	10,455	10,658	--	872	869	658	653	--	49	55
Vegetables and preps.	--	--	--	--	--	4,081	4,168	2,800	327	328
Tobacco, unmanufactured (mt)	238	208	--	17	24	1,612	1,448	1,400	111	149
Cotton, excl. linters (mt) ⁵	1,566	1,552	900	169	40	2,711	2,517	1,400	278	64
Seeds (mt)	1,200	816	--	73	51	913	827	900	105	89
Sugar, cane or beat (mt)	139	123	--	7	9	60	48	--	3	3
Oilseeds and products (mt)	33,808	35,966	33,800	4,047	2,843	11,288	10,984	8,600	1,193	714
Oilseeds (mt)	24,735	24,251	--	2,665	1,920	7,875	6,818	--	733	452
Soybeans (mt)	24,027	23,287	22,300	2,579	1,820	6,950	6,117	4,700	682	380
Protein meal (mt)	6,671	8,666	--	1,091	684	1,795	1,975	--	252	114
Vegetable oils (mt)	2,402	3,049	--	292	239	1,618	2,191	--	208	169
Essential oils (mt)	46	46	--	4	4	619	533	--	41	40
Other	--	--	--	--	--	4,228	4,284	--	326	304
Total	--	--	--	--	--	57,365	53,730	49,000	4,727	3,870
IMPORTS										
Animals, live	--	--	--	--	--	1,525	1,670	1,400	132	107
Meats and preps., excl. poultry (mt)	1,140	1,230	1,200	97	96	2,583	2,718	2,800	215	210
Beef and veal (mt)	785	857	--	68	61	1,552	1,761	--	137	131
Pork (mt)	260	271	--	21	26	766	686	--	56	55
Dairy products	--	--	--	--	--	1,273	1,368	1,400	89	109
Poultry and products	--	--	--	--	--	186	207	--	16	15
Fats, oils, and greases (mt)	76	80	--	6	6	58	59	--	5	4
Hides and skins, incl. furskins (mt)	--	--	--	--	--	210	184	--	17	13
Wool, unmanufactured (mt)	38	45	--	3	2	131	151	--	11	5
Grains and feeds	--	--	--	--	--	2,941	2,919	3,000	218	226
Fruits, nuts, and preps.,										
excl. juices (mt) ⁶	7,121	7,581	8,000	667	767	3,773	3,982	5,000	355	432
Bananas and plantains (mt)	3,950	4,175	4,100	344	340	1,218	1,214	1,300	93	93
Fruit juices (1,000 hectoliters)	29,829	26,577	27,000	1,714	2,342	913	669	--	46	56
Vegetables and preps.	--	--	--	--	--	3,604	4,249	4,500	407	435
Tobacco, unmanufactured (mt)	337	241	200	22	14	1,179	822	800	81	54
Cotton, unmanufactured (mt)	27	10	--	1	5	34	11	--	1	4
Seeds (mt)	223	257	--	19	33	357	422	--	27	32
Nursery stock and cut flowers	--	--	--	--	--	974	1,082	1,100	113	108
Sugar, cane or beet (mt)	2,938	2,170	2,100	129	92	1,013	758	--	58	29
Oilseeds and products (mt)	3,780	4,314	4,300	338	279	2,248	2,243	2,300	172	147
Oilseeds (mt)	985	1,028	--	77	69	374	371	--	27	24
Protein meal (mt)	967	1,277	--	111	89	181	188	--	17	11
Vegetable oils (mt)	1,828	2,010	--	150	122	1,693	1,684	--	128	112
Beverages, excl. fruit										
juices (1,000 hectoliters)	--	--	--	--	--	3,247	3,705	--	234	288
Coffee, tea, cocoa, spices (mt)	2,305	2,369	--	246	220	5,778	6,056	--	647	472
Coffee, incl. products (mt)	1,212	1,155	1,200	119	118	3,698	3,587	3,800	406	285
Cocoa beans and products (mt)	767	875	1,000	105	79	1,414	1,701	1,800	191	139
Rubber and allied gums (mt)	1,075	1,162	1,200	77	94	1,315	1,027	1,100	68	60
Other	--	--	--	--	--	2,458	2,703	--	197	199
Total	--	--	--	--	--	35,798	37,007	38,000	3,108	3,006

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

Region & country	Fiscal year			1998					1999	
	1997	1998	1999F	Feb	Sep	Oct	Nov	Dec	Jan	Feb
	\$ million									
WESTERN EUROPE	9,617	8,844	7,500	950	479	804	818	841	748	623
European Union ¹	8,997	8,508	7,300	917	451	764	788	821	728	597
Belgium-Luxembourg	715	666	--	54	58	68	48	83	47	39
France	557	538	--	64	21	60	44	44	45	26
Germany	1,376	1,294	--	141	76	104	120	130	107	91
Italy	792	722	--	93	32	81	58	72	59	44
Netherlands	2,011	1,792	--	239	79	111	162	219	185	172
United Kingdom	1,289	1,300	--	104	86	135	128	85	97	78
Portugal	243	185	--	19	7	9	16	11	24	11
Spain, incl. Canary Islands	1,087	1,126	--	112	47	122	137	77	102	70
Other Western Europe	620	336	200	32	28	39	30	20	19	25
Switzerland	506	236	--	24	17	29	14	13	15	18
EASTERN EUROPE	317	320	300	35	11	16	23	25	18	15
Poland	164	139	--	19	3	6	8	3	8	7
Former Yugoslavia	72	97	--	12	3	6	6	12	6	2
Romania	37	31	--	1	1	1	2	2	0	1
NEWLY INDEPENDENT STATES	1,593	1,456	1,400	124	34	46	25	46	40	35
Russia	1,281	1,103	1,100	92	6	18	14	28	20	17
ASIA ²	26,436	21,954	16,800	1,876	1,301	1,954	1,869	1,913	1,632	1,620
West Asia (Mideast)	2,562	2,285	2,100	177	123	227	158	206	118	189
Turkey	742	658	600	47	34	54	48	51	22	53
Iraq	50	131	--	6	0	0	0	0	0	8
Israel, incl. Gaza and W. Bank	543	389	--	43	13	52	12	43	27	43
Saudi Arabia	630	535	500	34	34	58	41	55	25	39
South Asia	728	623	600	38	37	82	54	80	43	30
Bangladesh	123	114	--	11	11	30	15	28	22	6
India	152	163	--	9	13	20	14	38	13	15
Pakistan	418	275	--	17	6	26	18	12	7	3
China	1,774	1,514	1,300	176	51	239	121	79	59	60
Japan	10,713	9,459	8,000	850	589	697	786	794	789	779
Southeast Asia	3,136	2,282	2,000	175	128	193	190	211	197	168
Indonesia	768	529	400	21	31	50	32	60	39	27
Philippines	898	744	600	51	46	56	53	57	50	74
Other East Asia	7,523	5,790	4,900	461	372	515	560	543	427	393
Korea, Rep.	3,293	2,245	2,000	184	140	198	216	200	203	160
Hong Kong	1,640	1,568	1,300	122	128	129	137	142	86	92
Taiwan	2,588	1,971	1,600	154	104	188	203	200	138	141
AFRICA	2,265	2,167	1,900	179	193	179	165	213	169	189
North Africa	1,480	1,475	1,300	116	119	114	102	149	120	130
Morocco	166	139	--	6	2	7	12	15	4	23
Algeria	307	281	--	23	13	23	12	23	23	21
Egypt	928	939	900	74	99	83	67	103	90	82
Sub-Sahara	785	692	600	63	74	65	63	63	49	59
Nigeria	106	140	--	11	12	10	17	10	13	24
S. Africa	239	193	--	14	17	20	13	16	13	10
LATIN AMERICA and CARIBBEAN	9,984	11,348	11,400	989	822	1,074	1,035	1,142	726	841
Brazil	461	566	400	37	39	110	64	36	25	12
Caribbean Islands	1,473	1,487	--	127	105	148	114	135	130	124
Central America	1,029	1,137	--	110	87	98	125	128	83	110
Colombia	552	592	--	54	38	39	53	50	27	41
Mexico	5,077	5,956	6,700	514	456	539	556	633	351	416
Peru	178	314	--	27	35	39	35	39	22	35
Venezuela	552	516	500	55	24	45	40	53	37	41
CANADA	6,620	7,022	6,700	534	558	601	591	586	517	514
OCEANIA	534	545	500	41	49	56	47	42	42	33
TOTAL	57,365	53,730	49,000	4,727	3,467	4,859	4,671	4,827	3,891	3,870

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 Jan 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	102.0	95.8
Food grains	7.5	7.3	8.5	8.2	9.5	10.4	10.7	10.6	8.9	7.9
Feed crops	18.7	19.3	20.1	20.2	20.4	24.6	27.3	27.6	23.3	21.7
Cotton	5.5	5.2	5.2	5.2	6.7	6.9	7.0	6.5	6.1	5.5
Oil crops	12.3	12.7	13.3	13.2	14.7	15.5	16.4	19.9	17.3	14.4
Tobacco	2.7	2.9	3.0	2.9	2.7	2.5	2.8	2.9	3.0	2.4
Fruits and tree nuts	9.4	9.9	10.2	10.3	10.3	11.1	11.9	12.8	11.9	12.6
Vegetables	11.5	11.6	11.9	13.5	13.9	14.9	14.6	15.1	15.3	15.4
All other crops	12.8	13.1	13.7	14.0	14.9	15.2	15.9	16.7	16.6	16.8
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)	(1.0)
Final animal output	90.2	87.3	87.1	91.7	89.7	87.6	92.2	96.2	92.7	93.7
Meat animals	51.2	50.1	47.7	50.8	46.8	44.8	44.4	49.9	42.8	44.4
Dairy products	20.2	18.0	19.7	19.2	19.9	19.9	22.8	21.0	24.2	23.3
Poultry and eggs	15.3	15.2	15.5	17.3	18.4	19.1	22.3	22.2	22.4	22.7
Miscellaneous livestock	2.5	2.5	2.6	2.8	3.0	3.2	3.4	3.5	3.5	3.5
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)	(0.7)
Services and forestry	15.3	15.4	15.2	16.6	17.9	19.4	20.7	22.1	23.0	23.7
Machine hire and customwork	1.8	1.8	1.8	1.9	2.1	1.9	2.2	2.6	2.5	2.5
Forest products sold	1.8	1.8	2.2	2.6	2.7	2.9	2.8	2.8	2.8	3.0
Other farm income	4.5	4.7	4.2	4.6	4.4	5.2	5.9	6.3	6.8	6.8
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	217.8	213.2
<i>Minus</i> Intermediate consumption outlays:	92.9	94.6	93.5	100.6	104.9	109.0	112.9	118.6	113.0	112.1
Farm origin	39.5	38.6	38.6	41.2	41.3	41.6	42.7	45.7	43.2	43.2
Feed purchased	20.4	19.3	20.1	21.4	22.6	23.8	25.2	25.2	23.9	23.8
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	27.1	26.7
Fertilizers and lime	8.2	8.7	8.3	8.4	9.2	10.0	10.9	10.9	10.4	10.1
Pesticides	5.4	6.3	6.5	6.7	7.2	7.7	8.5	8.8	8.9	9.0
Petroleum fuel and oils	5.8	5.6	5.3	5.3	5.3	5.4	6.0	6.2	5.2	5.0
Electricity	2.6	2.6	2.6	2.7	2.7	3.0	3.2	3.0	2.6	2.5
Other intermediate expenses	31.4	32.8	32.2	36.2	39.2	41.2	41.5	43.9	42.7	42.2
Repair and maintenance of capital items	8.6	8.6	8.5	9.2	9.1	9.5	10.3	10.4	10.2	10.2
Machine hire and customwork	3.6	3.5	3.8	4.4	4.8	4.8	4.7	4.8	4.6	4.5
Marketing, storage, and transportation	4.2	4.7	4.5	5.6	6.8	7.2	6.9	7.1	6.9	6.9
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	18.2	17.8
<i>Plus</i> Net government transactions:	3.1	2.1	2.7	6.9	1.0	0.1	0.1	0.1	5.3	6.5
+ Direct government payments	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.8	14.0
- 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	110.1	107.6
<i>Minus</i> Capital consumption	18.1	18.2	18.3	18.4	18.7	19.1	19.4	19.5	19.6	19.5
Net value added²	80.7	73.0	82.1	78.6	85.3	74.8	96.3	92.8	90.5	88.1
<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	46.0	43.6

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
\$ billion										
Cash income statement:										
1. Cash receipts	169.5	167.9	171.4	177.8	181.2	188.1	199.6	208.7	195.5	190.7
Crops ¹	80.3	82.1	85.7	87.6	93.1	101.1	106.6	112.1	102.5	96.7
Livestock	89.2	85.8	85.6	90.2	88.2	87.0	93.0	96.6	93.0	94.0
2. Direct Government payments	9.3	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.8	14.0
3. Farm-related income ²	8.1	8.3	8.2	9.0	9.2	10.1	10.9	11.8	12.2	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	220.4	217.0
5. Cash expenses ³	134.1	134.0	133.6	141.2	147.6	153.6	161.4	167.2	163.0	162.2
6. Net cash income (4-5)	52.8	50.4	55.1	59.0	50.7	51.8	56.4	60.8	57.4	54.8
Farm income statement:										
7. Gross cash income (4)	186.9	184.3	188.7	200.2	198.3	205.5	217.8	228.0	220.4	217.0
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	-1.6
10. Gross farm income (7+8+9)	198.0	191.9	200.5	204.1	215.8	210.1	235.8	238.3	230.6	227.2
11. Total production expenses	153.3	153.3	152.9	160.5	167.5	174.1	182.4	188.4	184.6	183.6
12. Net farm income (10-11)	44.7	38.6	47.5	43.6	48.3	36.0	53.4	49.8	46.0	43.6

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.

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Table 31—Average Income to Farm Operator Households¹

	1992	1993	1994	1995	1996	1997	1998	1999
\$ per farm								
Net cash farm business income ²	11,320	11,248	11,389	11,218	13,502	12,460	--	--
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	--	--
\$ per farm operator household								
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	5,757	5,122
Plus earnings of the operator household from off-farm sources ⁹	35,731	35,408	38,092	39,671	42,455	46,358	45,060	46,651
Equals average farm operator household income	42,911	40,223	42,469	44,392	50,361	52,347	50,816	51,773
\$ per U.S. household								
U.S. average household income ¹⁰	38,840	41,428	43,133	44,938	47,123	49,692	--	--
Percent								
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	106.9	105.3	--	--
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. Values in the last three years preliminary or forecast. 1. This table derives farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Bureau of the Census, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income. 2. A component of farm-sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives, and farms run by a hired manager. Includes income of farms organized as proprietorships, partnerships, and family corporations. 3. Consistent with the CPS definition of self-employed income, reported depreciation expenses are subtracted from net cash farm income. The ARMS collects data on farm business depreciation used for tax purposes. 4. Wages paid to the operator are excluded because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income. 5. Gross rental income is excluded because net rental income from farm operation is added below to income received by the household. 6. More than one household may have a claim on the income of a farm business. On average, 1.1 households share the income of a farm business. 7. Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business. In 1991 and 1992, gross 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
<i>\$ billion</i>										
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
<i>Percent</i>										
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 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	Jan	Aug	Sep	Oct	Nov	Dec	Jan
<i>\$ million</i>										
Commodity sales ¹	199,580	208,665	195,514	18,121	15,168	16,693	20,787	19,694	18,605	16,714
Livestock and products	93,005	96,568	92,972	7,608	8,119	8,112	7,848	8,265	7,796	7,969
Meat animals	44,414	49,925	42,832	3,558	3,762	3,803	3,216	3,568	3,319	3,482
Dairy products	22,820	20,989	24,176	1,962	1,991	2,043	2,250	2,231	2,342	2,392
Poultry and eggs	22,345	22,183	22,446	1,821	2,086	1,961	2,148	2,019	1,905	1,889
Other	3,425	3,471	3,518	268	280	305	234	447	230	207
Crops	106,575	112,097	102,542	10,514	7,048	8,582	12,939	11,429	10,810	8,745
Food grains	10,741	10,603	8,867	838	925	708	614	582	692	689
Feed crops	27,265	27,638	23,317	3,456	1,545	1,431	2,774	2,809	2,664	2,929
Cotton (lint and seed)	6,983	6,515	6,095	938	88	206	770	986	1,107	484
Tobacco	2,796	2,886	3,049	362	431	591	365	207	818	372
Oil-bearing crops	16,362	19,911	17,340	2,242	610	1,305	3,798	1,913	1,644	1,842
Vegetables and melons	14,561	15,086	15,323	1,042	1,571	1,535	1,538	911	891	832
Fruits and tree nuts	11,933	12,790	11,911	619	938	1,280	1,488	1,685	1,222	596
Other	15,935	16,668	16,640	1,016	941	1,525	1,592	2,335	1,772	1,002
Government payments	7,340	7,496	12,390	1,723	1,702	1,809	1,980	3,498	1,150	2,407
Total	206,919	216,160	207,904	19,845	16,870	18,502	22,767	23,192	19,756	19,121

Annual values for the most recent year and monthly values for the current 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 contact: Roger Strickland (202) 694-5592. To receive current monthly cash receipts, contact Larry Traub at (202)694-5593 or ltraub@econ.ag.gov.*

Table 34—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops ¹				Total ¹			
			Dec	Jan			Dec	Jan			Dec	Jan
	1997	1998 P	1998	1999	1997	1998 P	1998	1999	1997	1998 P	1998	1999
\$ million ²												
NORTH ATLANTIC												
Maine	258	267	23	24	228	233	17	17	486	500	40	41
New Hampshire	69	69	6	5	97	97	7	5	166	166	13	10
Vermont	416	472	45	43	97	102	5	3	513	574	50	46
Massachusetts	102	102	8	8	430	401	39	12	532	503	48	20
Rhode Island	9	9	1	1	74	75	8	3	83	84	9	4
Connecticut	218	219	19	18	279	266	34	13	496	485	53	30
New York	1,859	2,100	205	206	1,037	1,071	89	70	2,896	3,171	294	276
New Jersey	180	180	15	7	596	581	34	23	776	761	49	29
Pennsylvania	2,789	2,889	255	266	1,339	1,284	121	110	4,128	4,172	377	375
NORTH CENTRAL												
Ohio	1,869	1,818	164	156	3,476	3,112	293	286	5,345	4,930	456	442
Indiana	1,896	1,671	132	120	3,610	3,373	693	305	5,506	5,044	825	425
Illinois	1,937	1,413	98	105	7,339	6,228	436	988	9,276	7,641	535	1,093
Michigan	1,352	1,293	115	139	2,236	2,122	228	155	3,588	3,415	343	294
Wisconsin	4,070	4,399	432	410	1,686	1,701	205	149	5,756	6,100	637	559
Minnesota	4,054	3,489	304	272	4,101	3,958	581	339	8,155	7,447	885	611
Iowa	5,530	4,778	344	331	7,311	6,356	591	809	12,841	11,134	935	1,140
Missouri	2,795	2,235	188	207	2,768	2,298	194	261	5,564	4,533	381	468
North Dakota	611	554	51	65	2,702	2,465	325	189	3,313	3,019	376	254
South Dakota	1,820	1,412	135	149	2,417	2,003	179	203	4,237	3,414	314	352
Nebraska	5,542	5,323	439	356	4,550	3,809	444	564	10,092	9,132	883	920
Kansas	5,017	4,915	396	344	3,985	3,255	343	359	9,001	8,171	739	702
SOUTHERN												
Delaware	573	596	51	54	174	156	7	6	748	752	57	60
Maryland	915	985	85	89	623	572	37	27	1,538	1,557	122	115
Virginia	1,538	1,476	120	133	863	762	79	41	2,401	2,238	199	175
West Virginia	324	324	24	23	71	71	8	4	394	394	31	27
North Carolina	4,694	3,837	264	299	3,608	3,308	287	117	8,302	7,146	551	416
South Carolina	797	759	60	59	898	749	54	36	1,695	1,508	114	95
Georgia	3,442	3,460	286	304	2,445	2,144	216	114	5,887	5,604	501	418
Florida	1,265	1,238	124	168	4,978	5,155	556	582	6,243	6,392	680	750
Kentucky	1,978	1,799	95	152	1,655	1,818	560	379	3,633	3,617	655	531
Tennessee	1,005	923	74	93	1,287	1,162	194	121	2,292	2,085	268	214
Alabama	2,431	2,457	195	220	796	725	77	32	3,227	3,181	272	252
Mississippi	2,006	2,174	166	191	1,470	1,309	165	113	3,476	3,484	331	304
Arkansas	3,416	3,221	265	295	2,446	2,195	186	150	5,862	5,416	451	445
Louisiana	659	655	54	62	1,481	1,272	254	155	2,140	1,926	308	217
Oklahoma	3,061	2,544	231	266	1,308	1,177	80	74	4,369	3,721	311	339
Texas	8,184	8,733	707	627	5,277	4,973	572	376	13,461	13,706	1,279	1,003
WESTERN												
Montana	991	745	65	82	1,072	937	125	73	2,063	1,682	191	155
Idaho	1,389	1,409	140	137	1,926	1,738	216	82	3,315	3,147	356	219
Wyoming	646	471	29	54	199	165	26	10	845	636	55	64
Colorado	3,012	3,027	245	256	1,388	1,392	136	157	4,399	4,419	381	414
New Mexico	1,354	1,283	102	187	562	483	47	22	1,915	1,766	149	209
Arizona	888	806	81	80	1,257	1,403	143	161	2,145	2,209	223	242
Utah	715	743	71	62	238	231	21	16	953	974	92	78
Nevada	180	180	13	15	130	161	11	11	310	341	24	26
Washington	1,604	1,724	155	151	3,778	3,337	246	202	5,382	5,061	400	353
Oregon	740	691	58	63	2,373	2,202	159	115	3,113	2,892	217	178
California	6,294	7,032	658	609	18,995	17,728	1,446	668	25,289	24,761	2,104	1,277
Alaska	6	6	1	1	26	26	2	2	32	32	2	2
Hawaii	68	68	5	7	415	400	34	34	483	468	39	41
U.S.	96,568	92,972	7,796	7,969	112,097	102,542	10,810	8,745	208,665	195,514	18,605	16,714

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

Table 35—CCC Net Outlays by Commodity & Function

	Fiscal year									
	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
1988/98 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, CCI

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 repayment 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	Jan	Feb	Mar	Jan	Feb	Mar
\$ billion									
Sales ¹									
At home ²	380.2	395.3	--	32.4	27.4	30.2	32.4	59.8	89.9
Away from home ³	297.9	301.7	--	24.1	24.4	28.6	24.1	48.5	77.1
1995 \$ billion									
Sales ¹									
At home ²	371.0	378.5	--	30.4	25.8	28.5	30.4	56.2	84.7
Away from home ³	289.7	286.0	--	22.5	22.8	26.6	22.5	45.2	71.9
Percent change from year earlier (\$ billion)									
Sales ¹									
At home ²	3.4	4.0	--	4.5	-5.1	-4.7	4.5	-0.2	-1.7
Away from home ³	3.0	1.3	--	3.6	9.8	16.0	3.6	6.6	9.9
Percent change from year earlier (1995 \$ billion)									
Sales ¹									
At home ²	1.0	2.0	--	2.4	-7.3	-6.5	2.4	-2.3	-3.8
Away from home ³	0.2	-1.3	--	0.9	7.0	12.9	0.9	3.9	7.0

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

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

Note: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food, excluding alcoholic beverages and pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced and consumed on farms and food furnished to employees; (4) this series includes all sales of meals and snacks, while PCE includes only purchases using personal funds, excluding business travel and entertainment.

For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," ERS Agr. Econ. Rpt. No. 575, Aug. 1987.

Transportation

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

	Annual			1998					1999	
	1996	1997	1998 R	Feb	Sep	Oct R	Nov	Dec	Jan	Feb
Rail freight rate index ¹ (Dec. 1984=100)										
All products	111.5	112.1	113.4	113.5	113.5	113.4	113.3	113.1	113.1	112.7
Farm products	115.9	120.3	123.9	124.7	125.1	121.2	121.1	121.1	121.5	121.6
Grain food products	108.8	107.6	107.4	108.5	107.0	107.2	107.2	107.2	107.2	99.2
Grain shipments										
Rail carloadings (1,000 cars) ²	25.2	23.2	22.8	23.9	21.7	26.5	24.9	24.6	23.4	24.8
Barge shipments (mil. ton) ^{3,4}	3.1	2.6	3.0	2.0	1.4	3.3	4.6	3.5	1.3	2.7
Fresh fruit and vegetable shipments ⁵										
Piggy back (mil. cwt)	1.1	1.1	0.9	1.0	0.9	0.8	0.8	0.9	0.6	0.6
Rail (mil. cwt)	1.6	1.7	1.2	1.5	0.8	1.3	1.5	1.4	1.4	0.9
Truck (mil. cwt)	35.7	42.6	42.2	40.7	36.3	41.2	40.2	40.5	40.3	34.8

R = Revised. 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	--	--

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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