

AGRICULTURAL OUTLOOK



Economics Editor
Dennis A. Shields
(202) 694-5331
dshields@ers.usda.gov

Associate Economics Editor
Judith E. Sommer
(202) 694-5322

Managing Editor
Mary Reardon
(202) 694-5136

Art Director
Cynthia Ray

Statistics Coordinator
David Johnson
(202) 694-5324

Photo Researchers
Shashunga Clayton
Lindsay Mann

2 **Briefs**

Livestock, Dairy, & Poultry: Poor Winter Weather Reduces Beef Supply

*Agricultural Policy: Farm Policy for the 21st Century:
A Diversity of Visions for the Future*

5 **Commodity Spotlight**

Soybean Plantings to Expand, Corn to Recede in 2001

William Lin

10 **World Agriculture & Trade**

Forces Shaping Global Food Demand & Agricultural Trade

Anita Regmi & Mark Gehlhar

Canada's Agriculture: 5 Years After the End of Transportation Subsidies

Suchada Langley

19 **Farm Finance**

Farm Credit Use Expected to Rise Slightly

Jerome Stam, Steven Koenig, James Ryan, & Dan Milkove

Interest Rates on Farm Loans Likely to Fall Throughout 2001

Paul Sundell

26 **Resources & Environment**

*Agri-Environmental Payments: Rewarding Farmers for
Environmental Performance*

Roger Claassen, Mark Peters, LeRoy Hansen, & Mitch Morehart

*The Change to Conservation: Moving Farmers Toward
New Production Practices*

Margriet Caswell

Statistical Indicators

35 Summary
36 U.S. & Foreign Economic Data
38 Farm Prices
40 Producer & Consumer Prices
42 Farm-Retail Price Spreads
44 Livestock & Products
48 Crops & Products

52 World Agriculture
53 U.S. Agricultural Trade
57 Farm Income
62 Food Expenditures
62 Transportation
63 Indicators of Farm Productivity
64 Food Supply & Use

Published 10 times per year by the Economic Research Service, U.S. Department of Agriculture. Materials may be reprinted without permission. Current and back issues available at www.ers.usda.gov/epubs/pdf/agout/ao.htm.

Contents have been approved by the World Agricultural Outlook Board and the summary released April 18, 2001. Price and quantity forecasts are based on the April 10, 2001, *World Agricultural Supply and Demand Estimates*.

Subscriptions: Call 1-800-999-6779 or 1-703-605-6220 for prices and ordering. By mail, order from ERS-NASS, 5285 Port Royal Rd., Springfield, VA 22161. Checks payable to ERS-NASS.

The next issue (AGO-282) is scheduled for mailing on June 5, 2001. If not delivered by June 20, call (202) 694-5127 (please have mailing label handy). The full text will also be distributed electronically; call (202) 694-5050.

Cover photo: Grant Heilman

Planting intentions for 2001 . . . Farm credit use . . . Global food demand . . . Ag conservation policies . . . Canada's transport subsidies

U.S. Field Crop Plantings to Decline in 2001

Planting intentions in 2001 for the eight major U.S. field crops (corn, soybeans, wheat, barley, sorghum, oats, cotton, and rice) total 251.5 million acres, down 1.3 percent from last year's planted area. Expansion in hay area will more than offset the decrease. While lower expected prices and higher fertilizer and fuel costs pulled down corn planting intentions by 4 percent, benefits from the government marketing loan program upheld producer incentives (per-unit returns) for soybeans and cotton. Farmers intend to plant a record 76.7 million acres of soybeans and the largest cotton area (15.6 million acres) since 1995. Despite higher expected prices for wheat, planting intentions are down 4 percent as dry conditions last fall delayed and reduced seeding in the Southern Plains.

Farm Credit Use Expected to Rise Slightly

Total farm business debt will rise just 1.2 percent to \$182.8 billion in 2001, the smallest projected increase since debt dipped slightly in 1992. With limited potential gains in farm prices this year following relatively low levels in 2000, farmers remain cautious about debt expansion. High levels of direct government payments to farmers (including emergency assistance) and adequate levels of working capital and off-farm earnings are limiting farmers' demand for credit. Farmers have been maintaining or improving their balance sheets by applying some of the additional government payments to existing debt.

Average interest rates for farm loans from commercial banks should dip below 9 percent by midyear and may drift slightly lower in the second half of 2001, following the Federal Reserve's easing of monetary policy earlier in the year. Should U.S. economic growth in the second half of 2001 and the first half of 2002 strengthen as expected, interest rates on agricultural loans are likely to rise slightly in the winter or spring of 2002.



Forces Shaping Global Food Demand & Agricultural Trade

Recent shifts in trade patterns reveal dramatic changes in global food demand that will likely continue well into the future. Bulk commodities (primarily grains and oilseeds) now make up less than 30 percent of the value of world agricultural trade compared with 41 percent in 1985, and processed consumer-oriented products such as meat, beverages, bakery products, and snack foods make up a growing share. Driving these shifts are changes taking place in both developing and developed countries, particularly income growth. Growth in urbanization, interest in food quality, and concerns about food safety standards are also shaping demand and influencing future prospects for food consumption and international trade.

Canada's Agriculture: 5 Years After The End of Transportation Subsidies

The 1995 repeal of Canada's Western Grain Transportation Act (WGTA) ended government support that had lowered producers' cost of transporting grain to export ports from the Prairie Provinces—Alberta, Manitoba, and Saskatchewan. Subsidized freight rates had helped encourage grain exports and diverted grains away from

domestic enterprises. Elimination of freight subsidies has reduced returns for traditional grains such as wheat and caused shifts to relatively minor nontraditional crops such as dry peas, which have become an important part of successful low-cost livestock operations. Rising transportation costs for producers have also led to retention of feed in the Prairie region to support the expanding livestock sector.

Agri-Environmental Payments to Farmers: Rewarding Performance

Initiating a program to provide agri-environmental payments to producers could help maintain past agri-environmental gains, address emerging environmental problems (e.g., nutrient runoff), and perhaps support farm income. Such a program, based on use of environmentally sound practices, could reward high levels of environmental performance on agricultural land or improvement over past performance. To explore issues of program design, USDA's Economic Research Service linked farm-level data from the Agricultural Resource Management Study with several indicators of potential for environmental damage. Among the findings: designing a conservation program to focus on a specific farm type (e.g., large family farms) is not likely to solve a particular agri-environmental problem.

Moving Farmers Toward New Production Practices

What motivates U.S. farmers to adopt environmentally beneficial production practices? USDA's Economic Research Service examined the impact of a range of factors, including government programs, farmers' technical knowledge, land tenure, and natural resource characteristics of farms (e.g., soil type and climate), using survey data from farmers in 10 watersheds spread throughout the country. Among the findings is that education has a significant positive effect on farmers' willingness to adopt practices that require specialized knowledge (such as biological pest control).

Briefs

Livestock, Dairy, & Poultry**Poor Winter Weather Reduces Beef Supply**

Cold, wet conditions have limited cattle weight gain in feedlots since late November, resulting in lower marketing weights, delayed marketings, and a very tight supply of market-ready animals. With buyer demand strong, competition for the reduced supply of beef, particularly higher quality beef, has pressed retail prices above the record levels of the early 1990s.

Poor weather conditions in recent months have given prices an extra boost and the market a view of the next couple of years. Overall cattle numbers continue to decline, putting a long-term squeeze on production. The total cattle inventory dipped slightly for the fifth straight year in 2000. Beef cows declined less than 1 percent from 1999, while dairy cows rose less than 1 percent. The total cow inventory was down 5 percent from the 1996 peak, and the downturn is unlikely to be reversed for at least the next several years.

The downward trend has been exacerbated by a sharp increase in cow slaughter this past winter and near-record number of heifers slaughtered in 2000. Consequently, the number of beef cow replacement heifers calving and entering the herd is expected to be down this year. In addition, on January 1, 2001, the number of heifers on feed (and thus not entering the breeding herd) in the seven states that report monthly was up from the large numbers recorded in 2000 and 1999 by 4 and 15 percent, respectively.

Total cattle-on-feed inventories on March 1 were up 3 percent from a year earlier as the poor feeding conditions (plus one less slaughter day) resulted in the marketing pace declining 16 percent in February. The sharp slowdown in the slaughter pace has been partially offset by a spike in cow slaughter in the first quarter, after poor weather conditions forced producers to use rapidly tightening hay stocks. Although annual cow slaughter is expected to decline for the fifth consecutive year, first-quarter slaughter rose 9 percent above a year earlier. For the year, steer

and heifer slaughter is expected to decline about 4 to 5 percent, while cow slaughter drops 7 percent.

Slaughter weights for federally inspected beef declined in December after running well above year-earlier levels since mid-spring 2000. With continued poor weather and feedlot conditions, weights in March were sharply lower. This past winter (2000/01) will likely go down as the worst feeding year since 1992/93 when feedlot conditions remained poor until well into spring.

Beef production declined nearly 7 percent in the first quarter (January-March) compared with first-quarter 2000. Production in the second quarter (April-June) will be about unchanged from a year earlier as more production is pushed into the second quarter. Second-half production will begin to fall well under year-earlier levels, a result of the declining cattle inventory.

For the year, beef production is forecast down 4 percent from 2000.

With demand strong and total slaughter running well below expectations given record on-feed inventories, first-quarter fed cattle prices averaged \$79 per cwt, up from \$69 a year earlier. Prices averaged near \$80 in early April, compared with \$73.52 a year earlier. Prices are expected to remain strong in 2001, reflecting the reduced supplies, but the present price premiums will erode somewhat as feedlot conditions improve and marketings increase.

Retail prices for USDA Choice beef soared in January and February, reflecting strong domestic and export demand and tight supplies. January's average \$3.21 per pound, up from the monthly record \$3.13 set in September 2000, rose to \$3.34 in February and March, the result of even tighter supplies. Prices will moderate from this high but should remain 5 to 10 cents above the 2000 annual record of \$3.07 per pound. Both the farm-retail spread and cattle prices, which rose in January, will likely moderate as beef supplies increase this spring. Prices for Choice boxed beef in January eclipsed the

The current outbreak of foot and mouth disease (FMD) in the European Union (EU) and elsewhere is creating uncertainty in international meat trade. Officials have confirmed FMD cases in the United Kingdom, France, Netherlands, Ireland, and Argentina, as well as a number of other countries.

FMD is a highly contagious and economically devastating disease of cattle and swine. It also affects sheep, goats, deer, and other cloven-hooved ruminants. While many affected animals recover, the disease leaves them debilitated, causing severe losses in production of meat and milk. The disease does not affect the safety of food and is not considered a public health threat. The virus can be spread by many different carriers, including humans, most uncooked meat products, manure, flies, water, and soil. To prevent FMD from entering the U.S., USDA in March intensified scrutiny and inspections at ports of entry and implemented a temporary import prohibition of swine, ruminants, and products that could potentially carry the virus from the EU and other countries that have confirmed cases of this animal disease.

As of mid-April, the U.S., Japan, and Russia (major red meat importers) continue to temporarily ban imports of live animals, frozen and chilled red meats, and other red meats from the EU and Argentina if the products do not meet certain processing standards to kill the FMD virus.

The U.S. ban affects a relatively small share (10 percent) of the U.S. red meat import market. In 2000, the U.S. imported \$3.8 billion of red meat and products, including \$278 million from the EU (pork) and \$113 million from Argentina (mostly beef). Leading suppliers include Canada (beef and pork), Australia (beef and lamb), and New Zealand (beef and lamb). Beef from the EU was already banned due to concerns about bovine spongiform encephalopathy (BSE)--so-called "mad cow disease." For more information, see the USDA website on FMD: <http://www.usda.gov/special/fmd/fmd.html>

December 1990 record of \$129.48 per cwt and approached \$135 in late February. First-quarter prices averaged \$129.41. With seasonal moderation of feeding conditions, prices this spring are expected to decline. However, prices remained strong

in April as feeding conditions remained poor. **AO**

Ron Gustafson (202) 694-5174
ronaldg@ers.usda.gov

For more information on the beef market, see the Economic Research Service report *Livestock, Dairy, and Poultry Situation and Outlook* at <http://usda.mannlib.cornell.edu/reports/erssor/livestock/ldp-mbb/2001/>

Agricultural Policy

U.S. Farm Policy for the 21st Century: A Diversity of Visions for the Future

As debate over the future of U.S. farm policy gathers momentum, a wide range of ideas has emerged regarding how to address the needs of farmers and other stakeholders in a new farm bill. The House Committee on Agriculture began hearing testimony in mid-February from agricultural economists, commodity groups, and farm organizations on specific options and program designs for a new farm policy. The testimony has reflected a diversity of views on the shape farm policy should take in the future.

Most of these views have been fleshed out with significant detail on program design, and generally fall into three positions. One favors continuation of traditional support programs with no supply controls, the second favors a return to supply controls, and the third favors continued transition to a more market-oriented policy.

Traditional Support Programs

Continuation of traditional support programs has been advocated in testimony by most commodity groups and farm organizations before the House Committee on Agriculture and has characterized most of the views reported by the 21st Century Commission on Production Agriculture (AO April 2001). Proponents base their policy recommendations on the agricultural market conditions since enactment of the 1996 Farm Act. In their view, the promise of increased market access and rising exports for U.S. commodities has not been realized, and risk management programs were inadequate to address price and production losses over the past several years, resulting in emergency assistance.

Proposals from these groups have all recommended some type of countercyclical income support program, although details vary on trigger mechanisms and payment formulas. Proposals for triggers have included farm income, aggregate price, gross revenue, gross return per acre, gross cash receipts, or percentage of production cost, calculated at national levels, although some recommended state, regional, or county triggers.

Payments would be the difference between the current levels of the measure, and the measure during some historical base period—generally mid-1990s to 2000—multiplied by an eligibility factor which varies among proposals. For this factor, some suggest historical area and yields, others propose average recent production, and some suggest the same eligibility as current production flexibility contract (PFC) payments (also called Agricultural Market Transition Act—AMTA—payments). Some proposals recommend including government payments in calculating target income or price levels, but most do not. Nearly all proposals recommend covering the traditional program crops and adding oilseeds.

Most proponents of traditional support programs have favored continuing the current PFC payments. About half have proposed increasing the amounts paid out through that program, and most, though not all, have recommended including additional crops, particularly oilseeds. Most also favor maintaining the current marketing loan program, although most recommend adjusting commodity loan rates upward to rebalance price relation-

ships among covered crops with the level currently set for soybeans. Many suggest changes to increase flexibility in the operation of the marketing loan and loan deficiency payment programs, including allowing for pre-harvest lock-in of loan deficiency payment (LDP) rates, allowance for payments on grazed-out wheat acreage, ending the requirement of PFC payment eligibility to receive loan deficiency payments, and extending sign-ups and final dates for requesting loan deficiency payments through the marketing year.

All proponents of traditional support recommend eliminating payment limitations for the loan programs, and most advocate no means testing for participation in income support programs. At least one proposal, however, favored targeting of benefits to family-scale operations, both to secure public support for farm income assistance and to guard against further concentration of production.

Virtually all advocates of traditional support programs have recommended continuing the planting flexibility introduced in the 1996 Farm Act; however, a small but vocal group recommends adoption of supply control programs to manage surpluses. They believe trade forecasts had been too optimistic when the 1996 Farm Act was enacted, overstating access to international markets as outlets for surplus domestic production. Their proposals included a voluntary supply control program that would provide higher marketing loan rates in return for fallowing land, as well as reauthorization of farmer-owned reserves, to assure adequate stocks and to provide a risk management tool for farmers. Other proposals suggest increasing humanitarian food aid donations and creating a farm storage program for government-owned surplus stocks designated for food aid and use as renewable fuels.

Briefs

Market-Oriented Views

A more market-oriented view, presented both to the House Agriculture Committee and as a minority view within the 21st Century Commission report, was advocated by only a few, but is representative of a view that has surfaced in other farm policy discussions. Details vary among groups and individuals who hold this position, but in most cases the view is based on the idea that the U.S. farm sector is diverse and thus requires a range of programs that will meet the needs of most groups without damaging the interests of others. The strongest proponents of a market-oriented farm policy broadly suggest that income support programs are not needed since large farms produce adequate income, small farms depend on off-farm income rather than on farm programs, and mid-size farms need assistance to transition either to more profitable sizes or out of farming into more profitable enterprises. Others, particularly among some livestock commodity groups, favor more market-oriented programs because they are less likely to help one sector of the industry at the expense of another.

The strongest proponents have recommended converting spending now dedicated to direct payment programs toward two new sets of programs. For larger commercial farms, they recommend efforts focused on risk management, trade expansion, and a safety net for catastrophic market- or weather-related risk—for example, a farmer-run actuarially sound crop insurance system coupled with a legislated automatic (not emergency) disaster payment. For smaller farms, they suggest rural development programs and technical assistance in adopting new technologies and developing greater economies of scale.

Those holding the stronger position oppose establishing a new countercyclical income support payment, arguing it would be absorbed into land prices and rents and thereby provide incentives for farm operations to grow larger in order to afford the cost of land. Most also recommend ending the decoupled PFC payment, particularly if a new countercyclical program is adopted, since the purpose of fixed payments—to ensure farmers the benefits (and costs) of market price changes—

would be undermined by countercyclical support payments that flattened out income across high- and low-price years.

All proponents of a market-oriented policy oppose acreage set-asides and on-farm storage programs, because of their tendency to distort market prices.

Addressing Trade, Concentration, & Environment

Although recent House hearings have been focused primarily on commodity price and income support policy, most groups submitting testimony have called for expanded trade. Proponents of both the market-oriented and traditional support approaches favor improved access to foreign markets and the exclusion of food from unilateral sanctions, but many who propose more traditional support programs also suggest stronger export promotion programs. Some have also advocated negotiating allowances in trade agreements for measures to offset the negative effects of exchange rate fluctuations, to protect against competitive advantages based on lower regulatory standards, and to address unique incidents such as weather disasters or import surges. A few have suggested that global solutions be developed for supply, demand, and price issues common to all farmers.

Of particular concern to a number of groups favoring traditional support was increasing concentration, particularly in the input and processing sectors. Those sharing this concern recommended vigorous enforcement of current antitrust regulations, as well as enhanced government, particularly USDA, authority to investigate and regulate business organizations and alliances, to review the concentration implications of government research and patenting procedures, and to provide relief and damages for anticompetitive and market distorting practices. They further recommended efforts to secure international cooperation in addressing anticompetitive behavior on a global basis.

All of the groups have been in agreement in their recommendations for continuing public expenditures on research and technical assistance. Proposals have been made for increased research in the areas of food safety; new technologies, includ-

ing biotechnology; disease prevention; and environmental quality. Some have recommended increased research into the implications of structural change, particularly increased concentration.

Virtually all agree on the need for programs designed to assist farmers in meeting conservation goals and environmental mandates. Recommendations include increased technical assistance, cost-share programs, and incentive payments for adoption of environmentally beneficial practices. Many also favor expanding land retirement for conservation, although there was more disagreement on this kind of conservation proposal because of its production reducing effect.

Supporters of the market-oriented view have recommended that farm payment programs focus more attention on environmental stewardship, given growing concern among the nonfarming public about environmental impacts of agriculture and the safety of food production.

As debate continues, new policy ideas and program designs will undoubtedly emerge. Most will likely fall within the general positions outlined here, leaving the details of these diverse proposals increasingly the focus of discussion. As testimony already presented to the Committee reveals, balancing competing demands and differing views will be challenging. Add to that the need to meet commitments within the World Trade Organization and to remain within Federal spending limits, and the difficulty of the task becomes even more apparent.

Further articles in this series will consider a number of these policy ideas and program designs in greater detail and will consider the diversity of underlying goals for farm policy that have generated the range of proposals entered thus far in the debate. **AO**

*Contacts: Anne B. W. Effland (202) 694-5319 and Edwin Young (202) 694-5336
aeffland@ers.usda.gov
ceyoung@ers.usda.gov*

Testimony presented to the U.S. House Committee on Agriculture is available on the Committee's website: www.agriculture.house.gov/comdty.htm

Commodity Spotlight



Soybean Plantings to Expand, Corn to Recede in 2001

U.S. farmers encountered varying price signals among major field crops as spring planting time approached this year. Prices increased about 10 percent from last year for winter wheat and 3 percent for spring wheat (including durum), but declined 5 percent for corn, 15 percent for soybeans, and 16 percent for cotton. These expected farm price changes were based on new crop futures quotes for harvest-time delivery in mid-March for spring crops and mid-October for winter wheat.

Benefits from marketing loans continue to be important for planting decisions, particularly in upholding producer incentives (per-unit returns) for soybeans and cotton. Higher fertilizer and fuel costs also affected planting intentions.

Producers' net response was a 3-million-acre decrease in planting intentions for the eight major U.S. field crops (corn, soybeans, wheat, barley, sorghum, oats, cotton, and rice) from last year's planted acreage. However, acres harvested for hay crops are expected to expand by almost 4 million, more than offsetting the decrease for the major field crops.

Planting intentions for the eight major field crops total 251.5 million acres in 2001, down 1.3 percent from last year's planted area and 3.6 percent below the

most recent peak in 1996. Farmers intend to plant a record 76.7 million acres of soybeans, 3 percent higher than in 2000 and the tenth straight increase. Corn plantings are down 4 percent to 76.7 million, wheat plantings down by 4 percent to 60.3 million, while cotton area, 15.6 million acres, is the largest since 1995.

Trend yields, along with planting intentions, suggest a corn crop about 5 percent smaller than last year and a record U.S. soybean crop in 2001. For wheat, production prospects hinge on how much of the late-planted wheat in the Southern Plains is harvested for grain and on the magnitude of yields for the surviving wheat.

Farmers' planting intentions continue to show the effects of the 1996 Farm Act, which has allowed farmers more flexibility to respond to market signals by changing their enterprise mix. For example, with producers' participation in farm

programs no longer tied to base acreage planting requirements and acreage reduction restrictions, farmers are free to pursue soybeans' relatively high net returns that are due largely to higher expected loan deficiency payments (LDPs) compared with other crops. Soybean plantings grew by more than 12 million acres between 1996 and 2001 (assuming 2001 intentions are realized), and for the first time since 1983 match intended corn plantings.

Soybean acreage has expanded in the wheat-dominated Central and Northern Plains. Some wheat acreage in the Central and Northern Plains was also switched to minor oilseeds, such as canola and flaxseed. Sunflower plantings are expected down again this year to 2.7 million acres to make way for higher-net-return canola and flaxseed. As a result, U.S. farmers intend to plant a record 1.9 million acres of canola this year (nearly double the 1999 level), reflecting higher per-unit returns than sunflowers and fewer disease problems in canola production.

Soybeans. Intended soybean acreage for 2001 is 76.7 million acres—3 percent above last year's acreage. The key factor enticing producers to grow soybeans this year is the relatively high expected marketing loan benefits for soybeans compared with other crops. Soybean acreage in Iowa and Illinois—the two leading soybean producing states—is expected to increase 2-3 percent over last year's levels.

Unlike last year, the increase in intended soybean plantings in the Corn Belt outpaces gains in the Central and Northern Plains this year. Soybean plantings in the Corn Belt are expected to expand 1.5 million acres, with advances concentrated mostly in Minnesota (0.3 million), Iowa (0.3 million), Wisconsin (0.25 million), Illinois (0.2 million), and Ohio (0.2 million). Soybean plantings in the Central and Northern Plains are expected to be up

These estimates are based on farmer surveys conducted by USDA's National Agricultural Statistics Service during the first 2 weeks of March. USDA's *Prospective Plantings* report for 2001, released on March 30, 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 this spring could delay corn plantings and cause an even greater switch from corn to soybeans. USDA will release acreage estimates in its June 30 *Acreage* report, after crops have been planted or when planting intentions are more definite. The March *Prospective Plantings* report is available at <http://usda.mannlib.cornell.edu/>. The June *Acreage* report will be available at <http://usda.mannlib.cornell.edu/reports/nassr/field/pcp-bba/>.

Commodity Spotlight

Planting Intentions for Major Field Crops Are Down 3 Million Acres From Last Year's Plantings

From Last Year's Rankings				
Crop	2000			2001
	Intended acreage	Planted acreage	Harvested acreage	intended acreage
Million acres				
Corn	77.9	79.5	72.7	76.7
Soybeans	74.9	74.5	72.7	76.7
Wheat	61.7	62.5	53.0	60.3
Sorghum	9.0	9.2	7.7	9.4
Barley	5.7	5.8	5.2	5.3
Oats	4.4	4.5	2.3	4.4
Rice	3.4	3.1	3.0	3.1
Cotton	15.6	15.5	13.1	15.6
Total	252.6	254.7	229.7	251.5

Economic Research Service, USDA

1.1 million acres (up 0.5 million in North Dakota, 0.3 million in South Dakota, and 0.2 million in Nebraska) as wheat acreage switches to soybeans.

In contrast, farmers in the Delta and Southeast intend to decrease soybean plantings for the fourth year after a spike in 1997, especially in Mississippi (down 200,000 acres), Tennessee (130,000 acres), and Louisiana (110,000 acres). Poor soybean yields in these areas over the last few years have made cotton a more attractive alternative. Partially offsetting the decreases are increases in soybean plantings in Kentucky (50,000 acres) and South Carolina (30,000 acres).

Marketing loan provisions make soybean production attractive to many producers across the U.S. The relatively high loan rate and the potential for marketing loan gains (repayment of government loans below the original loan rate) and LDPs are expected to provide a higher per-bushel net return than for competing commodities when the market price falls below the commodity loan rate. Other factors in the record expansion of soybean acreage since 1996 include: 1) planting flexibility under the 1996 farm legislation; 2) adoption of the popular biotech herbicide-tolerant soybeans—reaching a 63-percent adoption rate (up from 54 percent last year), which reduces input costs for many farmers and increases profit potential; and 3) higher per-acre costs of fertilizer and energy inputs in corn production (see page 8).

Corn. Corn growers intend to plant 76.7 million acres in 2001, down nearly 4 percent from last year's planted acreage mainly because of 1) higher per-acre costs of fertilizer and fuel in corn production, and

2) a 5-percent-lower expected corn price as reflected in the new crop December futures price in mid-March, right after the intentions survey was taken by USDA's National Agricultural Statistics Service.

To many producers in Illinois and Iowa, corn net returns anticipated for the new crop appear less attractive than returns for soybeans. Like last year, marketing loan provisions entice producers to grow soybeans. In addition, higher fertilizer and fuel costs this year in corn production (relative to soybeans) induce more soybean plantings. These two factors combine to boost the soybeans-to-corn price ratio at active planting decision times (around mid-March) to around 2.62 to 1. This ratio suggests that soybeans will be more profitable than corn in these two states and others in the Corn Belt. Most of the 0.4-million-acre decline in corn plantings in Iowa, for example, probably indicates a switch from corn to soybeans—a pattern that is widespread throughout the entire Corn Belt region.

Intended corn plantings in the Corn Belt this year are down 1.5 million acres across the entire region. Iowa leads the decline (0.4 million), followed by Minnesota (0.3 million), Ohio (0.2 million), Indiana (0.2 million), and Illinois (0.2 million). Intended corn acreage is down throughout the Central and Northern Plains as well, a decrease of 0.8 million acres. Key states showing the largest decline are Colorado (0.2 million), South Dakota (0.2 million), Nebraska (0.2 million), and North Dakota (0.1 million). The expansion in soybean plantings in North Dakota—an increase of 0.5 million acres—is a shift not only from corn but also from durum wheat and sunflowers.

Intended corn acreage is also down throughout the entire South (the Delta, Southeast, and Southern Plains regions). Texas leads the decline (0.2 million) as planting was hampered by frequent rains during the spring, followed by Louisiana (0.1 million) and Georgia (0.1 million). In all, intended corn plantings are down 0.7 million acres in the South. Most of the land not being planted to corn in Texas will probably be switched to hay or other competing crops.

Intended adoption of biotech corn varieties is about 24 percent this year, down slightly from 25 percent last year. Plantings of insect-resistant (*Bt*) corn varieties (excluding stacked-gene varieties) are expected to reach 16 percent of all corn acres, down from 18 percent last year.

Other feed grains. Among “other feed grains,” only sorghum planting intentions show an increase—2 percent above last year's planted acreage. Intended sorghum plantings are up 100,000 acres in Kansas, the largest producing state, followed by New Mexico (35,000), Colorado (20,000), Louisiana (20,000), and Oklahoma (20,000). Sorghum production requires less water relative to corn and thus saves on irrigation costs, which become a concern because of higher energy prices this year. The relatively strong sorghum prices also promote added acres from last year. In contrast, intended sorghum plantings in Texas are expected to be down 100,000 acres.

Intended barley plantings are down 300,000 acres in North Dakota, the leading barley producing state, due to lower expected prices. Much of the cropland not planted to barley could be switched to more profitable competing crops, such as soybeans and canola. Other states showing large declines are Washington (100,000 acres) and Montana (50,000 acres). Intended oat acreage is down 2 percent from last year's planted acreage, with most of the decline in North Dakota (50,000), Wisconsin (50,000), and Iowa (40,000). In contrast, oat plantings in Texas are expected to be up 100,000 acres.

Wheat. Wheat area intentions for 2001 total 60.3 million acres—down about 4 percent from last year's planted area. USDA's *Winter Wheat Seedings* report indicated in January that farmers had planted 41.3 million acres of winter wheat

Commodity Spotlight

for harvest in 2001, down 5 percent from last year and the lowest since 1971. The March planting intentions survey confirms this level of winter wheat plantings.

The expected price of winter wheat facing producers at planting time last fall actually showed a 10-percent increase over a year earlier, based on new-crop futures prices at harvest time. The higher expected price would have induced more winter wheat plantings, under favorable weather conditions. However, dry soil conditions followed by prolonged wet conditions delayed and reduced seeding progress and even slowed emergence, leading to a decline in winter wheat plantings, mostly in the Southern Plains. Oklahoma and Texas led the decline, down 700,000 and 300,000 acres. In these two states, dry conditions were followed by excessive rainfall, which further hindered seeding progress. Much of the unseeded winter wheat acres in Texas are probably switched to hay. Area harvested for hay in Texas is expected to be up almost 2 million acres, nearly half of the increase in hay acres nationwide.

In Montana, winter wheat acreage was down 0.3 million acres from last year, chiefly due to dry conditions. Most of the unseeded winter wheat acres in this state will apparently be switched to hay, not spring wheat. Areas harvested for hay are expected to be up 0.5 million acres. Similarly, soft red winter (SRW) wheat area is down 6 percent from last year, at about 8.9 million acres, with declines mostly in Illinois (0.15 million), Missouri (0.15 million), and Kentucky (0.12 million). Excessive soil moisture in southern Illinois and dry conditions across most of the Southeast slowed planting progress.

In 2001, U.S. farmers intend to plant only 2 percent more of other spring wheat than last year. The expected price for hard red spring (HRS) in mid-March was only 1 percent higher than last year, suggesting not much increase in HRS plantings this year. Intended plantings for durum wheat showed a 12-percent decrease from last year, reflecting cancellation of the durum Crop Revenue Coverage (CRC) program due to administrative difficulties. Anecdotal evidence suggests that final durum wheat plantings could differ from intentions because some farmers had returned their intention survey questionnaires before USDA announced the CRC cancel-

lation midway through the survey period. Durum plantings were particularly high last year due to the CRC revenue guarantee. Prospective durum wheat plantings are down 0.5 million acres, mostly in North Dakota, the leading durum producing state. In North Dakota, hard red spring (HRS) wheat intended plantings are up 0.3 million acres, continuing last year's shift from durum to HRS wheat. Some unseeded durum wheat acres will probably be switched to hay or soybeans.

Cotton. Planting intentions for cotton total 15.6 million acres, similar to last year's planted acreage. The expected producer incentive price (after accounting for marketing loan benefits) for growing cotton probably was down somewhat in mid-March from a year earlier. With the per-unit return expected down about 2 percent in 2001 (after adjusting for marketing loan gains and LDPs), cotton plantings are still attractive relative to competing crops such as corn, wheat, and sorghum.

Recent changes in the crop insurance program that have improved cotton's financial viability also help explain farmers' planting intentions. In some Southern and Delta counties of Mississippi, producers' net premium for 75-percent cotton insurance coverage dropped by as much as 20 percent for the 2001 crop year as a result of a general re-rating of the cotton program. Also, the Agricultural Risk Protection Act of 2000 (ARPA) made permanent the ad hoc premium subsidy increases of the past 2 years. Because the participation rate of cotton producers in the crop insurance program is already high, there is little room for growth. However, it is likely that growers will purchase higher coverage levels, which are now more affordable as a result of ARPA's increased subsidies for higher coverage levels.

With total cotton area anticipated marginally higher in 2001, offsetting changes were reported. The bulk of the increases are expected in four states: Mississippi, North Carolina, Arkansas, and Louisiana. However, high irrigation and fertilizer costs as well as uncertain water supplies have reduced incentives for growing cotton in Texas (down 400,000 acres) and California (down 70,000 acres).

The adoption of biotech cotton varieties increased to 64 percent of all cotton acres, up from 61 percent last year. Herbicide-

tolerant and stacked-gene varieties both show increases of 2-3 percentage points over last year. In contrast, *Bt* cotton is expected to account for 13 percent of total area, down from 15 percent last year.

Rice. Rice growers indicated plantings of nearly 3.1 million acres in 2001, up about 1 percent from a year earlier, with long grain plantings up 8 percent and combined medium/short plantings down 17 percent. Reduced plantings of medium grain rice in Arkansas, California, and Louisiana account for almost all of the intended reduction in U.S. rice acreage in 2001, a result of extremely low prices for medium grain rice this year. In contrast, growers across the South intend to expand long grain rice acreage, with Arkansas and Louisiana accounting for most of the acreage. Long grain prices have been supported by expectations of extremely tight supplies by the end of the 2000/01 marketing year, a result of a more than 13-percent drop in long grain production in 2000. Drought and salination problems reduced Louisiana's 2000 plantings.

Hay. U.S. farmers intended to greatly expand the area harvested for hay crops this year, up 7 percent from last year. This 4-million-acre increase in hay area would more than offset the 3-million-acre decrease in planting intentions for the eight major field crops. Key states showing the largest increases are Texas (up 1.8 million acres), Montana (up 0.5 million), North Dakota (up 0.35 million), as well as Colorado, Minnesota, South Dakota, Missouri, Oklahoma, Wyoming, and Kansas. Drought in the Southern Plains last year drew down hay stocks—important feed-stuffs for beef cattle and dairy operations—and raised hay prices. Much of the unseeded winter wheat acres in Texas and Montana and some corn acres in Texas will probably switch to hay. **AO**

William Lin (202) 694-5303
wwlin@ers.usda.gov

For further information, contact:

Gary Vocke, domestic wheat; Ed Allen, world wheat and feed grains; Allen Baker, domestic feed grains; Nathan Childs, rice; Mark Ash, oilseeds; Steve MacDonald, world cotton; Les Meyer, domestic cotton. All are at (202) 694-5300.

Commodity Spotlight

How Did Soybean Plantings Catch Up with Corn?

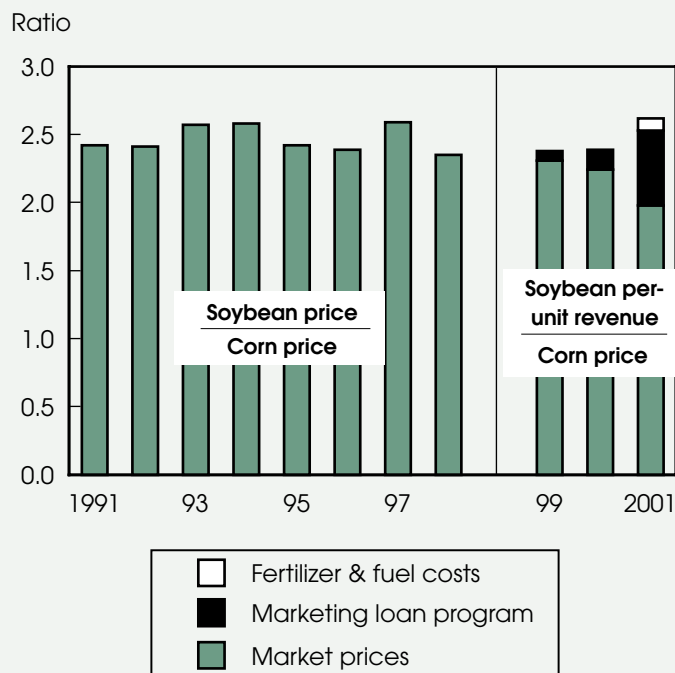
U.S. farmers this year intend to grow 76.7 million acres of soybeans, matching the level of corn planting intentions for the first time since 1983 when soybean plantings exceeded corn due to drought and the payment-in-kind program. This analysis illustrates how soybean planting intentions changed from last year as a result of changes this year in price-related factors, including benefits from marketing loans, prices of competing crops, and higher fertilizer and fuel costs in corn production.

Farmers can receive marketing loan benefits through loan deficiency payments and through marketing loan gains. Whenever the market price for an eligible field crop drops below its applicable commodity loan rate, farmers may opt for revenue-boosting *loan deficiency payments* (LDPs) in lieu of securing a commodity loan. (Commodity loans provide interim financing to producers of eligible commodities, regardless of market price levels—farmers pledge crops as collateral and receive loans at a specified rate—the loan rate—per unit of commodity.) The loan deficiency payment rate equals the difference between the commodity loan rate and the local, posted county price (PCP). Alternatively, eligible farmers realize a *marketing loan gain* by repaying outstanding commodity loans (per-unit) at the posted county price when the PCP is below the loan rate.

During 1999-2000, marketing loan benefits (LDPs and marketing loan gains) raised expected soybean per-unit returns by an average 4.8 percent over an average farm price of \$5.14 per bushel based on November new crop futures prices in mid-March. Benefits are based on the announced loan rate of \$5.26 per bushel. As a result, the program raised the soybeans-to-corn price ratio from an average of 2.33 in 1999 and 2000 to 2.38 during the same period. In 2001, marketing loan benefits raised per-unit soybean returns by 28 percent over the expected farm price, thereby raising the soybeans-to-corn price ratio from 1.98 (based on market prices) to 2.53. Thus, marketing loan benefits are a major factor enticing producers to grow soybeans this year, but with per-unit soybean returns (price plus LDP) unchanged from last year, the benefits do not cause soybean planting intentions to deviate from last year's levels.

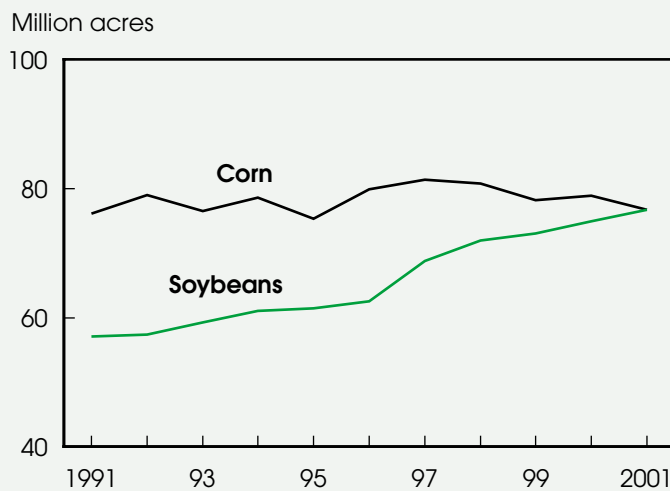
Among prices of competing crops, change in the expected farm price of corn had a larger effect on soybean plantings this year. Based on new crop December futures prices, the expected farm price of corn is estimated at \$2.178 per bushel, which is 5 percent lower than last year's level. According to estimates by USDA's Economic Research Service (ERS), a 1-percent decrease in the expected corn price would lead to a 0.145-percent increase in soybean plantings. ERS estimates that this increase would expand soybean plantings by 0.73 percent or 500,000 acres.

Relative Input Costs and Marketing Loan Program Benefits Make Soybeans More Attractive. . .



New-crop futures prices (November for soybeans and December for corn) in mid-March, adjusted to U.S. farm-level equivalent. Effects of marketing loan program and fertilizer and fuel costs are negligible before 1999.

. . .and Planting Intentions Converge for Soybeans and Corn



Economic Research Service, USDA

Commodity Spotlight

Higher fertilizer and fuel costs in corn production, reflecting the effect of higher natural gas prices over the last year or so, represent another important factor in the expansion of soybean plantings this year, because corn production uses significantly more nitrogen fertilizer relative to soybeans. In March 2000, prices of natural gas averaged about \$6.82 per thousand cubic feet, up from \$6 in March 1999. By December 2000, natural gas prices climbed almost 50 percent to nearly \$10 per thousand cubic feet. Because natural gas accounts for up to 90 percent of the cost of producing fertilizer, higher natural gas prices have had a significant effect on commercial fertilizer prices, particularly nitrogen.

According to a cost budget prepared by the University of Illinois Extension Service, nitrogen costs in corn production will increase by \$7 per acre this year because of higher nitrogen fertilizer prices. In addition, higher fuel prices would increase fuel costs by about \$3 per acre. In contrast, higher nitrogen fertilizer and fuel prices have either very little or no impact on the cost of soybean production. Assuming that an increase of \$10 per acre in the cost of corn production (relative to soybeans) in Illinois is the same as in other major producing states, this per-acre cost increase is equivalent to a decrease of \$0.0735 per bushel in the farm price of corn (assuming a trend yield of about 136 bushels per acre). A

decrease of this amount is about 4.59 percent of the expected corn farm price (\$2.178 per bushel), based on new crop December futures prices in mid-March. An equivalent decrease in the corn price would lead to an increase in the soybeans-to-corn price ratio from 2.53 (adjusted for the marketing loan program) to 2.62. Given the response of soybean plantings to a 1-percent change in the corn farm price estimated at -0.145 percent, the equivalent price effect increases soybean plantings by 0.67 percent, or 500,000 acres of corn land that could be switched to soybean plantings.

Thus, both the lower expected corn price and higher per-acre costs of fertilizer and fuel in corn production appear to have a large effect in explaining the change in soybean planting intentions from last year's 74.9 million acres to this year's 76.7 million. Higher soybean plantings also result from shifts out of other crops. For example, soybeans replaced soft red winter (SRW) wheat areas in the Corn Belt, durum wheat and sunflower acres in North Dakota, and barley and oats in the northern-tier states. Crop rotation considerations and the limited supply of quality soybean seed (due to germination problems) may constrain a further switch from corn to soybeans in 2001. **AO**

Visit the *field crops briefing rooms* on the
Economic Research Service website

Inside each **briefing room** is a synthesis of ERS research on the commodity. The analysis covers industry background, domestic market, trade, and policy.



Click to reach articles, reports, and data on the commodity, and links to other information sources.

www.ers.usda.gov/briefing

World Agriculture & Trade



FAO

Forces Shaping Global Food Demand & Agricultural Trade

Recent shifts in trade patterns reveal dramatic changes in global food demand that will likely continue well into the future. Driving these shifts are changes taking place in both developing and developed countries, particularly income growth. Food purchasing power has increased for most consumers in the world as average real per capita income levels doubled from 1960 through 1998. In some countries with limited natural resources, food imports have helped lower domestic prices and thereby increased purchasing power. Growth in urbanization, interest in food quality, and concerns about food safety standards are also shaping demand and influencing future prospects for food consumption and international trade.

Changing Composition Of Agricultural Trade

The composition of world agricultural trade by commodity has been evolving over the last two decades. Bulk commodities (primarily grains and oilseeds) now make up less than 30 percent of the value of world agricultural trade, compared with 41 percent in 1985. Trade in intermediate processed products (semiprocessed bulk commodities like vegetable oils, meals, and flours) has kept pace with the overall

level of world agricultural trade.

Processed consumer-oriented products such as meat, beverages, bakery products, and snack foods make up a growing share of global food trade. Fresh horticultural products, because of their perishability, remain a small share of trade despite technological advances that preserve quality during transit and extend shelf life.

Import demand for bulk commodities is tied more closely to increased caloric intake and population growth than is demand for processed consumer products. Developed countries' value of bulk commodity imports is stagnant, but bulk imports by developing countries are growing, rising to over 50 percent of world bulk trade in 1995 from near 40 percent in the 1980s. Imports of both food grains and feed grains by developing countries have grown steadily, while growth in nonbulk imports by developing and developed countries (4.5 percent and 4.6 percent) has remained nearly constant over the last two decades.

Sustained import growth of nonbulk commodities by developed countries raises the question of whether population growth and increasing food consumption are the sole drivers of trade in processed products. Growth in two-way trade of high-

value food products has boosted global food trade as individual countries export and import similar and competing products. Given this phenomenon, trade can expand without growth in consumption. An example of growth in intra-industry trade between high-income countries is the U.S. exporting high-quality beef at the same time it imports a greater volume of lower quality beef. Similarly, the U.S. imports high-value dairy products—mainly in the form of cheese—but exports lower valued dairy products such as powdered milk and whey products. And demand for foreign brands of packaged or bottled products has made beverages one of the faster growing categories in world food trade.

Shifts in the composition of U.S. agricultural exports have been particularly dramatic. In 1980, bulk exports accounted for nearly 70 percent of the value of total U.S. agricultural exports but the share declined steadily to less than 40 percent in 1998. With relatively low bulk prices in the late 1990s and with slow volume growth, the value of U.S. bulk trade in 1998 was below the value in 1980. As world demand for meat expanded, U.S. meat and meat product exports multiplied sevenfold—from \$900 million in 1980 to \$6.5 billion in 1998, and the meat share of total U.S. agricultural exports grew from 2.1 percent to 12.6 percent.

Income & Food Consumption

Income growth and subsequent changes in food consumption are key elements of shifts in global food demand and trade patterns. Real per capita income grew by almost 100 percent, on average, among most countries during the last four decades. Although real per capita income in 1998 was just over US\$500 for low-income countries compared with almost US\$28,000 for high-income countries, income growth among developing countries between 1961 and 1998 (221 percent for lower income developing countries) has generally surpassed that for the developed countries (173 percent for higher-income developed countries). Large gains in per capita income have resulted in significant changes in food consumption patterns, especially for higher income developing countries.

World Agriculture & Trade

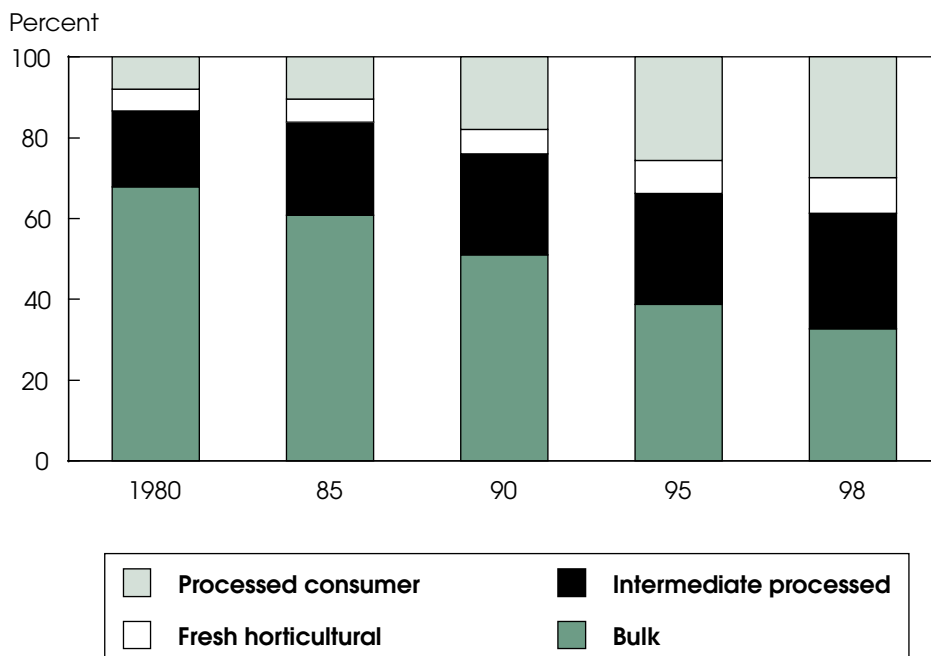
Often the best available measure of food consumption is the supply or availability of food in a market. Per capita global food availability has increased from about 2,255 calories per day in 1961 to 2,792 in 1998. In addition to a general increase in total available foodstuffs, the basic sources of calories are changing, with animal and horticultural products accounting for a growing share of total calories consumed. Per capita global availability of meat and of fruits and vegetables increased by more than 60 percent between 1961 and 1998, while the supply of roots and tubers decreased by over 21 percent. World cereal supply also increased by almost 17 percent during the same period.

Shifts in food consumption patterns tend to vary among countries based on their level of economic development. At the highest income levels, per capita consumption (as indicated by food availability) of both cereals and roots and tubers decreased between 1961 and 1998, while consumption of meat and produce increased substantially. In low-income countries, where food security remains a concern despite recent economic gains, decreases in root and tuber availability were more than offset by dramatic increases in per capita supply of all other food types.

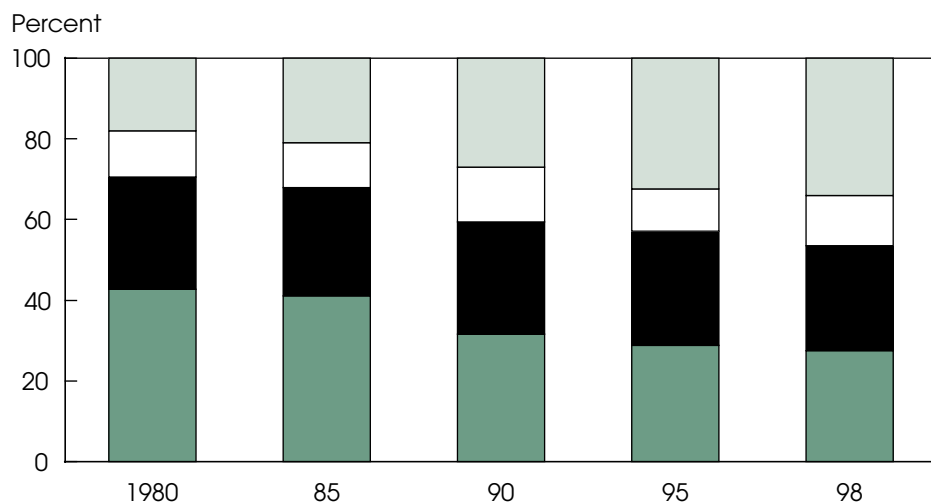
Despite these gains, per capita availability of meat and fruit and vegetables in low-income countries remains far below availability in middle- and high-income countries. With the exception of roots and tubers, food supply substantially increased in middle-income countries. In contrast to high-income countries, consumption of cereals in all developing countries continued to increase during 1961-98, by almost 32 percent in low-income and 12 percent in middle-income countries. Demand for livestock feed resulting from rising demand for meat accounted for part of the increase.

Differences in total food availability between developed and developing countries are also reflected in their respective food budget shares. In low-income countries, food accounts for a greater portion (47 percent) of consumers' total budget than in wealthier countries where, on average, food expenditures account for

Bulk Commodities Make Up a Larger Share of U.S. Agricultural Exports . . .



... Than of World Agricultural Trade



Economic Research Service, USDA

only about 13 percent. Staple food products such as cereals, fats and oils, and fruits and vegetables account for larger shares of the total food budget in low-income countries than in high-income countries. (Because data for fruits and vegetables include roots and tubers—cereal substitutes in poorer countries—they are categorized here as staples.) Meat and

dairy account for a greater share of the food budget in high-income countries.

Estimates of countries' responses to income shocks can be used to assess future global food needs. Forecasts of food demand, trade, and demand for associated transportation and infrastructure facilities assist policymakers in allocating

World Agriculture & Trade

resources. Income elasticity of food items—a measure of responsiveness of quantity of food demanded to a unit change in income—is greater in poorer countries than in wealthier ones. This means that when income rises, increases in food consumption expenditures are greater in poorer countries than in wealthier countries, and the consumption changes are not distributed evenly across all food groups. With income gains, low-income countries increase food consumption spending most on higher value items such as fish and dairy and least on cereal consumption.

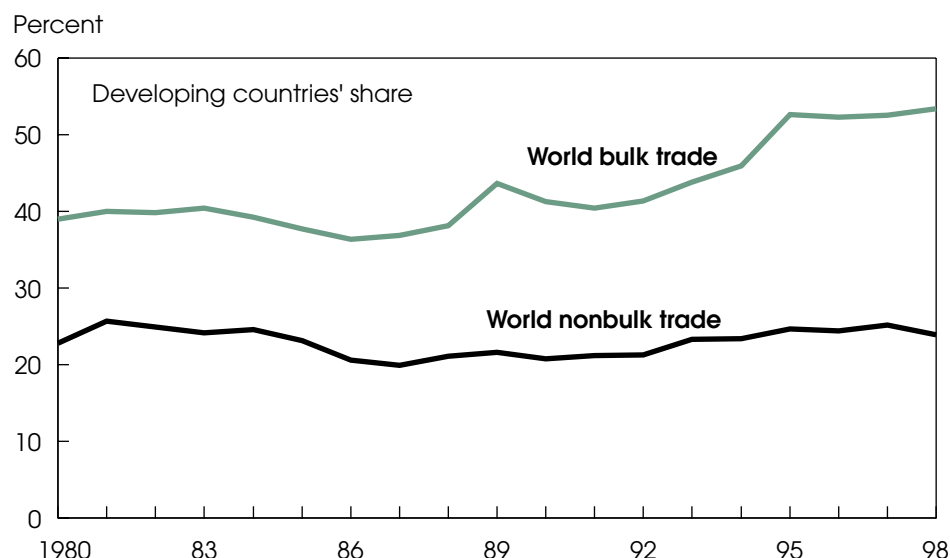
Urbanization & Food Consumption

Food preferences change as populations become more urbanized. Because of urban/rural differences in lifestyles, demands on time, food availability, and disposable income, the diets of urban and rural residents generally differ significantly. Consumers in urban areas have better marketing facilities and a greater supply of products from domestic and foreign producers than consumers in rural areas. Urban occupations are often associated with higher pay scales than rural areas, which are often highly dependent on low-paid agriculture.

Moreover, given the subsistence nature of agriculture in many developing countries, food consumption choices in rural areas are often constrained by residents' ability to sell their output because the income is used to purchase other food. With economic opportunities in urban areas more numerous than in rural areas and a greater percentage of women in the labor force, studies indicate that the increased opportunity cost of meal preparation increases demand for nontraditional "fast food" in many countries.

The effects of urbanization on diet differ from country to country. For poorer countries, urbanization may initially lead to substitution of marketed staple cereals and processed foods for basic rural staples such as rice and cassava. For example, FAO data for the 1970s and 1980s indicate significant increases in wheat consumption in urban China and India along with decreases in coarse grain and rice consumption. Further, wheat consumption

Developing Countries' Imports Account for a Growing Share of World Trade in Bulk Commodities



Economic Research Service, USDA

increased somewhat in rural areas while rice consumption remained stable. With further gains in income levels, food consumption expenditures may rise and shift toward increasingly expensive sources of nutrients such as meat, fruit, and vegetables, instead of staples such as cereals prepared at home.

Alternate demands for time in dual-income households have resulted in increased preferences for higher value, more processed products in many higher income countries. In addition, demand for quality and increased awareness of health and safety issues have significantly changed food consumption patterns in wealthier countries. For example, due partly to health concerns and to relative prices, the red meat share of total U.S. meat consumption declined from 79 percent in 1970 to 62 percent 30 years later, while the poultry share increased from 21 to 38 percent. Similarly per capita fruit and vegetable consumption in the U.S. increased 25 percent between 1977 and 1999.

Future growth in the urban population is particularly important in developing countries. In 1960, developed countries accounted for about one-third of the world's urban population. However, by

1998, developed countries accounted for only about one-fifth of the 3.4 billion global urban population. Assuming continuation of growth rates seen in the 1990s, urban population in developing countries can be expected to double to nearly 4 billion by 2020. Therefore, the effects of future dietary changes associated with urbanization will be most evident in developing countries.

Demand for Food Quality & Safety

Increased affluence and education are changing consumers' choices of food products in developed countries, and standards for quality and safer food products increase with a nation's wealth. Countries vary in how they perceive and handle risks from disease-causing organisms, based generally on access to and use of advances in science, detection technology, and mitigation methods. Accordingly, wealthier countries with more information about food safety risks tend to establish more stringent food safety standards for both domestically produced and imported food. And lower income countries are more concerned with sufficient food availability.

World Agriculture & Trade

Percentage Rise in Meat Availability in Low-Income Countries Far Surpasses Rest of World

	1961	1970	1980	1990	1998	1961-98 change
	<i>Kg/capita/year</i>					<i>Percent</i>
Cereals						
Low-income countries	128.5	148.2	157.1	173.1	169.4	31.8
Middle-income countries	125.0	131.0	139.9	142.2	139.8	11.8
High-income countries	122.3	111.7	107.3	108.1	112.9	-7.7
World	135.3	143.8	149.6	159.9	158.2	16.9
Roots and tubers						
Low-income countries	20.5	21.4	18.2	14.8	16.1	-21.5
Middle-income countries	14.6	14.1	12.4	11.7	13.1	-10.3
High-income countries	17.4	15.4	14.6	14.6	14.8	-14.9
World	19.0	19.1	16.3	14.0	14.9	-21.6
Fruits and vegetables						
Low-income countries	71.8	60.6	65.0	90.8	108.9	51.7
Middle-income countries	117.5	128.3	150.8	156.9	161.9	37.8
High-income countries	152.7	176.9	186.8	216.2	223.7	46.5
World	101.5	103.8	111.8	127.8	169.2	66.7
Meat						
Low-income countries	5.3	7.6	10.0	14.7	22.2	318.9
Middle-income countries	22.7	26.9	33.6	37.7	39.8	75.3
High-income countries	54.2	64.8	76.1	80.7	85.8	58.3
World	24.5	28.5	32.2	33.6	39.4	60.8

Countries grouped according to World Bank income definition. World average may not necessarily correspond to average of the three income groups because Yugoslavia and many countries of the former Soviet Union are not included in the income groups.

Source: FAO Food Supply Data, 2001.

Economic Research Service, USDA

Major incidents of illness associated with food consumption have greatly increased consumer concern about food safety in recent years, leading to lasting changes in consumer perceptions and food purchasing patterns in certain developed countries. For example, recent outbreaks in Europe of bovine spongiform encephalopathy (BSE)—known as “mad cow disease”—have led to dramatic declines in beef consumption there and significant economic losses for associated industries. In the first year of the crisis, the UK’s total economic loss from BSE was estimated at US\$1.2-1.6 billion.

Disease outbreaks have also fostered consumer interest in purchasing organically produced foods, supporting production processes that are “environmentally friendly,” and encouraging farming operations that take animal welfare concerns into consideration, though these activities may not necessarily factor into protection from disease transmission. Worldwide markets for organic foods—though small—are expanding, and interest in organic foods is greatest in higher income, better educated population segments in nearly every coun-

try. As many as 20 to 30 percent of consumers surveyed in Europe, North America, and Japan report purchasing organic foods regularly. Sales of organic foods have risen 15 to 30 percent in Europe, the U.S., and Japan for more than 5 years. Animal welfare concerns have led to changes in food production and marketing. For example, in most Western European countries, new regulations impose restrictions on livestock and dairy producers and processors, besides detailing conditions under which farm animals may be raised, fed, and slaughtered.

The public and private sectors are responding to consumer demand for quality and other attributes by developing and implementing mandatory and voluntary schemes for quality control management and assurance. These schemes—adopted at the national or regional level—are causing changes in the way food items are produced, marketed, and traded in Europe, and to some extent in the U.S. Quality assurance schemes, besides developing standards for production, processing, and transport, may include standards for environmental management practices.

Among the potential outcomes of imposing standards is an increase in agricultural production costs. For example, a standard requiring producers to limit the number of animals in a given area means either that additional land must be purchased or that fewer animals may be kept, and the associated increase in per-unit cost may result in higher prices for the consumer. Many consumers may value the added benefits to society from production process standards and may be willing to pay for these benefits. But some consumers may prefer to purchase a cheaper foreign product that is not subject to the same standards and thus costs less to produce.

In general, any policy that imposes costs on domestic firms that foreign firms do not face can potentially put the domestic firms at a disadvantage. Domestic firms understand the consequences of differences in regulation among countries, and sometimes apply political pressure on legislators to block imports from countries that do not have similar regulations or to at least take some policy action to reduce the competitive advantage of less regulated foreign suppliers.

What’s Ahead for Global Food Consumption & Trade?

As food consumption reaches a state of maturity in developed countries, developing countries will no doubt play a more important role in world agricultural trade. This trend is already evident in bulk trade. Population and income growth will create additional demand for food in developing countries, but limited resources will likely constrain food production in some of them. Unless agricultural productivity growth accelerates, developing countries will have to rely partly on imports in the foreseeable future to satisfy their growing food demands. What is less certain is exactly how the composition of world trade is likely to change.

Developing countries will represent a larger share of the world market and will be the major force driving trade in bulk grains. Nevertheless, it is unlikely that growth in bulk trade will exceed growth in nonbulk trade. Rising per capita incomes in developing countries over the coming decade will lead to greater demand for high-value products and less

World Agriculture & Trade

Food Share of Household Budget Is Larger for Low-Income Consumers...

	Budget share for food Consumer income level		
	Low	Middle	High
	<i>Percent</i>		
Total food	47	29	13
Cereals	28	20	16
Meat	18	22	25
Fish	5	5	6
Dairy	9	13	14
Oils and fats	7	5	4
Fruits and vegetables	23	21	20

...Who Also Cut Food Spending More When Income Falls

	Income elasticity of food Consumer income level		
	Low	Middle	High
	<i>Percent</i>		
Total food	0.73	0.58	0.29
Cereals	0.56	0.41	0.19
Meat	0.82	0.65	0.33
Fish	2.77	0.92	0.43
Dairy	0.93	0.71	0.35
Oils and fats	0.58	0.43	0.21
Fruits and vegetables	0.66	0.53	0.27

Income elasticity of food is change in food expenditures per unit change in income.

Economic Research Service, USDA

demand for basic products. For example, livestock product consumption is likely to grow faster than food grain consumption. USDA's baseline projections indicate that world wheat trade will grow by only 1.7 percent annually during 2000-10 compared with about 2.5 percent per year for world meat imports.

In wealthier countries, consumer access to adequate quantities of food is generally not an issue, and consumers are increasingly turning their attention to the quality of food—i.e., a greater variety of foods made with certain production techniques, meeting established safety standards, or complying with regulations. Differences

in food production and processing regulations among countries and acceptance or recognition of standards among trading partners can create challenges in global food trade. Recognizing these challenges, many countries are currently working toward multilateral solutions. Consumer quality concerns and multilateral rules governing quality issues will likely be among the key factors shaping future agricultural trade. **AO**

Anita Regmi (202) 694-5161
and Mark Gehlhar
aregmi@ers.usda.gov
mgehlhar@ers.usda.gov

UPCOMING REPORT FROM USDA'S ECONOMIC RESEARCH SERVICE

Changing Structure of Global Food Consumption and Trade

Watch for it this month on the ERS website

May Releases—USDA's Agricultural Statistics Board

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

May

- 1 Weather - Crop Summary (12 noon)
- 2 Broiler Hatchery
- 3 Egg Products
- 4 Dairy Products Prices (8:30 a.m.)
Cattle Predator Loss
Dairy Products
Poultry Slaughter
- 7 Crop Progress (4 p.m.)
- 8 Weather - Crop Summary (12 noon)
- 9 Broiler Hatchery
- 10 Cotton Ginnings - Annual (8:30 a.m.)
Crop Production (8:30 a.m.)
- 11 Dairy Products Prices (8:30 a.m.)
Milkfat Prices (8:30)
- 14 Potato Stocks
Turkey Hatchery
Crop Progress (4 p.m.)
- 15 Weather - Crop Summary (12 noon)
- 16 Agricultural Chemical Usage - Field Crops
Broiler Hatchery
Milk Production
- 18 Dairy Products Prices (8:30 a.m.)
Cattle on Feed
Cold Storage
Farm Labor
- 21 Crop Progress
- 22 Weather - Crop Summary (12 noon)
Chickens and Eggs
- 23 Broiler Hatchery
Catfish Processing
Livestock Chemical Usage - Sheep
Monthly Agnews
- 25 Dairy Products Prices (8:30 a.m.)
Milkfat Prices (8:30 a.m.)
Livestock Slaughter
Monthly Hogs and Pigs
- 29 Crop Progress
- 30 Weather - Crop Summary (12 noon)
Broiler Hatchery
Peanut Stocks and Processing
Pest Management Practices
- 31 Agricultural Prices

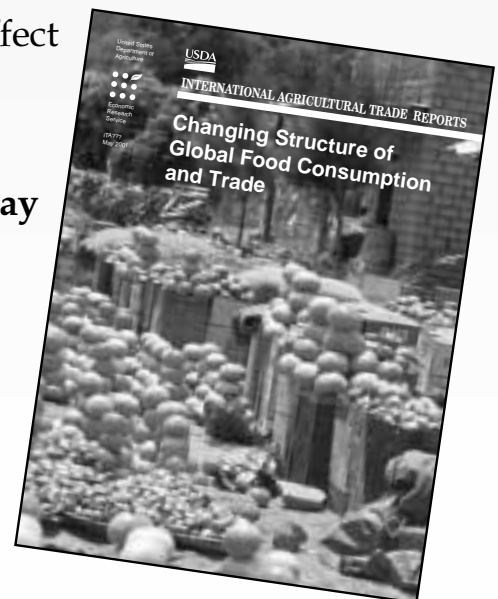
An upcoming report from the Economic Research Service. . .

Changing Structure of Global Food Consumption and Trade

- How higher income, urbanization, improved transportation, other demographic shifts, and consumer perceptions about quality and safety are changing global food consumption patterns.
- Why world food demand projections differ if they account for urbanization, and how urbanization affects caloric requirements and food availability.
- How advances in transportation technology partly explain for shifts in the composition of U.S. agricultural trade from bulk commodities to nonbulk items, including perishable products.
- What caused the shift in U.S. diets from beef toward chicken over the last 30 years.
- Which factors contribute to higher fruit and vegetable consumption.
- How food safety concerns affect international trade.
- Why interest in organic foods is expanding worldwide among higher income, better educated populations.
- How animal welfare laws will affect consumers worldwide.
- How concerns over food quality and safety will affect market structure, international competitiveness, and trade.

For release in May

Watch for it on the ERS website www.ers.usda.gov



World Agriculture & Trade



CN Rail

Canada's Agriculture: 5 Years After the End of Transportation Subsidies

Significant changes in domestic and trade policies in the 1990s have had a longlasting effect on Canada's agriculture. In 1995, Canada repealed the Western Grain Transportation Act (WGTA), ending government support that had lowered producers' cost of transporting grain to export ports from the Prairie Provinces—Alberta, Manitoba, and Saskatchewan. Elimination of freight subsidies reduced returns for traditional grains such as wheat, causing farmers to shift some wheat land to nontraditional crops. Rising transportation costs for producers also led to retention of feed in the region to support an expanded livestock sector. As the transportation subsidy ended, the Feed Freight Assistance Program also ended, stopping payments to livestock producers in feed-deficit areas and leading to rising feed grain production in Eastern provinces.

Changes in trade policies have also played a role in transforming Canada's agriculture. In 1989, Canada and the U.S. established a free trade area, adding Mexico in the North American Free Trade Agreement (NAFTA) in 1994. And in 1995, the multilateral Uruguay Round Agreement on Agriculture under the World Trade

Organization (WTO) committed Canada and other countries to a reduction in export subsidies for agriculture. While 1989 free trade area and NAFTA have removed most of the border trade policies in agriculture between the U.S. and Canada, differences in domestic policies and other agricultural marketing structures remain.

History of Canada's Freight Subsidies

Canada's regulation of freight rates for grains and oilseeds began with the 1897 Crow's Nest Pass Agreement. During the past few decades, the railroads were badly in need of additional income from higher rates in order to maintain the transportation network in good working condition. The WGTA—passed in 1984—required shippers of grains and oilseeds to pay only a portion of transportation costs while the government compensated railroads for hauling grains from Western Canada to export ports. Low shipping costs encouraged farmers to produce crops destined for export markets, skewing agricultural production toward commodities such as wheat and barley.

The government repealed the WGTA in 1995 as part of the Budget Implementation Act. Termination of transportation subsidies for grains and oilseeds in western Canada allowed a reduction in the budget burden, saving the Federal government an estimated C\$561 million and helping to fulfill the WTO commitment on export subsidy reduction. Repeal of the WGTA also allowed railways to charge higher rates (although still subject to legislated freight rate caps) and some of the additional funds could be channeled toward improvement in the rail system.

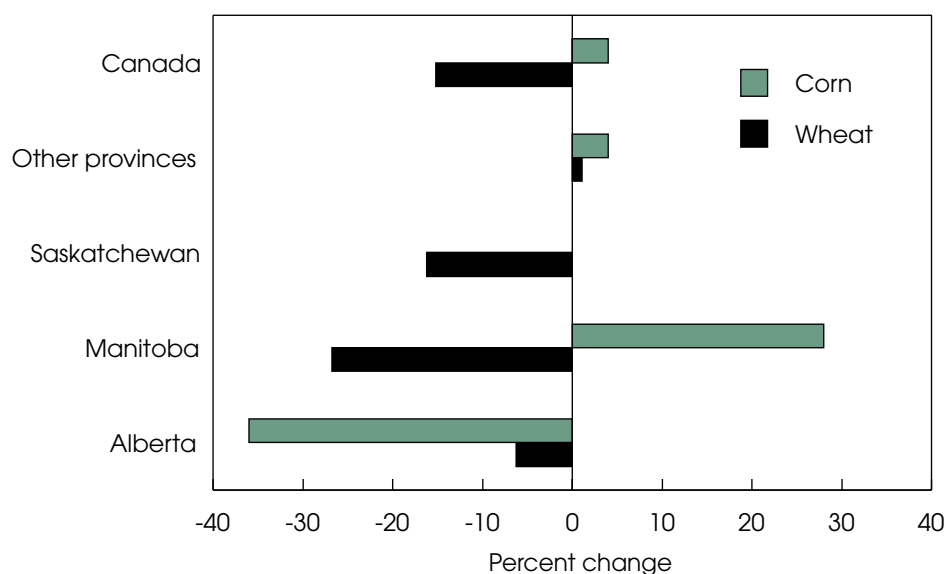
The end of the WGTA program resulted in elimination of the Feed Freight Assistance Program (FFA) for feed-deficit provinces. The FFA, created in 1941, helped lower feed costs for livestock producers in Atlantic Canada, British Columbia, eastern Quebec, northern Ontario, the Northwest Territories, and Yukon. The FFA ceased to operate as a transportation subsidy on October 1, 1995, and FFA funds—about C\$72.7 million—were available to aid feed-deficit livestock producers during an adjustment period. Producers in those provinces would also receive supplemental import permits for feed wheat and barley, if necessary. Losing feed subsidies has slowed grain movement from the Prairie to the eastern region and encouraged feed grain production in eastern Canada.

The immediate effects of WGTA repeal were cushioned in 1995/96 by high grain prices and the new Federal compensation to farmers for value of the lost subsidy. To deal with loss of the transportation subsidy in the longer term, Canada established two transitional programs that ended in 1997—the Western Grain Transition Payments Program (C\$1.6 billion) and the Western Grain Transition Adjustment Fund (C\$300 million). Besides lower returns from higher freight costs, farmers' problems were further compounded by serious disruptions along the rail system in winter 1996-97, prompting the government to initiate an independent review of the transportation system.

Although transportation subsidies have been eliminated, new transportation legislation passed last year has introduced a policy to cap railroad revenues at levels below the true cost of transportation but

World Agriculture & Trade

Manitoba's Corn Acreage Rose As Wheat Acreage Declined In the Late 1990s



Corn: from average 1990-94 to average 1995-99. Wheat: from average 1989-94 to average 1995-99.
Economic Research Service, USDA

still higher than the costs under the WGTA. Debate continues on the role of the Canadian Wheat Board (CWB) in commercial railcar tendering (contract bidding) and railcar allocation. Further decisions on transportation reform and freight rates will be announced later this year.

Other government efforts geared to helping farmers cope with higher freight costs include: changes in the CWB's pooling policy to reflect anticipated higher transportation costs in the eastern Prairies; an additional C\$1 billion of export credit guarantees to foreign buyers of Canadian bulk grain and other agricultural export sales; infrastructure and road upgrades; and the Dehydrated Alfalfa and Compressed Hay Assistance Program. In addition, the Federal government and provincial governments of Saskatchewan and Manitoba announced early last year that grain and oilseed producers in those provinces would receive a one-time payment of C\$400 million to absorb some of the end-of-the-WGTA impact. The Alberta provincial government offered a similar program for its producers.

Prairie Agriculture In the Post-WGTA Era

Eliminating transportation subsidies has transformed Canadian agricultural production, marketing, and exports of grains, oilseeds, and livestock. Changes in Canada's agriculture have been spurred by other factors such as NAFTA and the WTO, and ending freight subsidies in particular has strengthened the effects of establishing a free trade area and provided a stronger foundation for Canada's agricultural sector to compete under the WTO rules.

Subsidized freight rates had helped encourage grain exports and diverted grains away from domestic activities. In the Prairies, the farm value of grain was determined by the price at port after deducting freight costs. The WGTA kept the cost of transporting grains and oilseeds from Prairie producers to export position in Thunder Bay or Vancouver about C\$17 (about US\$12) per metric ton below costs that prevailed during post-WGTA. Removing the subsidies raised producer shipping costs by 40-50 percent, on average, for transport from local elevators to export position, and lowered

rates of return for Prairie grain and oilseed producers.

With elimination of freight subsidies lowering government support and raising costs, Prairie farmers moved away from production of freight-subsidized grains. Those farmers also developed a different mix of land, labor, and other inputs to stay profitable. Production in the Prairies shifted from grains to commodities such as specialty crops and livestock. The lower value for feed grains in the Prairies fostered expansion of cattle and hog production throughout the 1990s.

Processed food has become an integral part of the Prairie economy. In Alberta, for example, the post-WGTA annual growth rate for value of manufacturing shipments of meat and meat products, fruits and vegetables, and potato products was nearly 9 percent, exceeding the 6-percent growth rate for all food and beverage industries. Before repeal of the WGTA, Alberta's food and beverage industries had grown about 5 percent annually.

The most successful story is perhaps Manitoba's livestock industry. Manitoba has an advantage of affordable and low-cost supply of pasture. With no freight subsidies, it is expensive to export grain from Manitoba, due to the long distances to ports. Feed grains, particularly, stay in Manitoba.

It was estimated that about 5.8 tons of forage per animal is necessary for low-cost livestock enterprises. Grains can be bought locally or imported to feed livestock. A survey by Manitoba Agriculture and Food shows that the average rental rate for private pasture in 1997 was C\$6.73 per animal unit month (AUM), compared with C\$11.37 in Saskatchewan and about C\$12 in Alberta. (An AUM is the equivalent amount of forage needed by one mature 1000-pound cow and her suckling calf grazing for one month—i.e., 26 pounds of dry matter per day as forage or 997 pounds for one AUM.).

Manitoba also has the advantage of having a large share of government-owned land—about 41 percent or 1.7 million acres of unimproved "Crown" land—available for low lease rates. With successful livestock expansion, the livestock

share of total cash receipts has increased to nearly 43 percent (from 35.5 percent in 1994), compared with 26 percent in Saskatchewan and 60 percent in Alberta (from 20 percent and 53 percent in 1994).

Hog Sector Leads Livestock Expansion

The free trade agreement with the U.S. helped spur expansion of livestock production in Canada, and the WGTA repeal sustained it. Repeal occurred at a time when global meat demand was high, but livestock inventories during this period were also high. Canada's onfarm cattle inventory was up 14 percent, and the increase in the Prairie Provinces reached 20-25 percent during the post-WGTA period (from average 1989-94 to average 1995-99), with Manitoba leading.

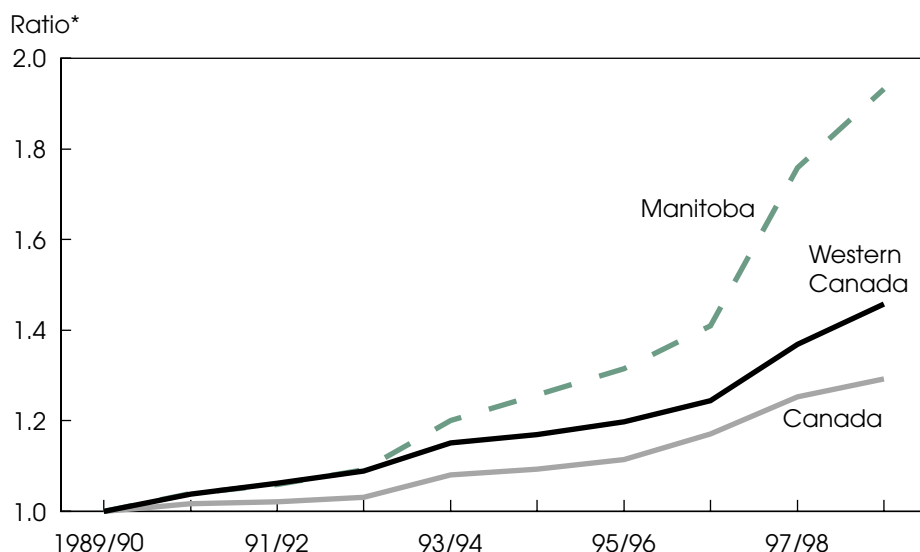
The hog story was more telling. While Canadian hog inventories were up 12 percent after WGTA repeal, the expansion in Manitoba—the province furthest from overseas export position—was much more impressive, a 37-percent increase. Manitoba's hog production ranks third after Quebec and Ontario.

Both cattle and hog production have been viable options for farmers in the Prairies, particularly in Manitoba. Most cattle and hogs from Manitoba have been sold as slaughter animals to the U.S. or to other Provinces for feeding, continuing a trend that started in the early 1990s after the free trade agreement was implemented. For hogs, the movement to the south could slow down in the wake of expansion of hog processing facilities in 1999 in Manitoba (Brandon and Winnipeg). This could increase Canadian hog processing capacity.

With livestock expansion continuing in the Prairies, the need for feed increases. Most feed barley now remains in Canada. The feed share of total domestic barley use increased about 13 percent during post-WGTA. Feed use of other grains such as corn, dry peas, canola meal, and soy meal has also increased.

Dry peas, a nontraditional crop not grown much during the pre-repeal WGTA period, became an important part of successful low-cost livestock enterprises during

Number of Livestock in Manitoba Nearly Doubled in the 1990s

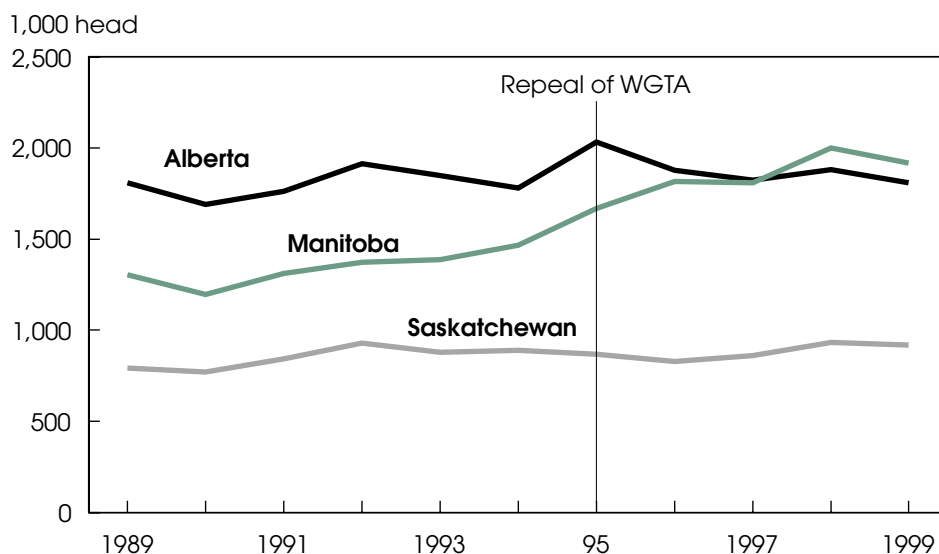


Based on grain-consuming animal units (GCAUs), a measure to combine different species of animals by comparing the historic amount of feed consumed by one dairy cow and the amounts consumed by other classes of livestock.

*Ratio is annual estimate relative to 1989/90.

Economic Research Service, USDA

Manitoba Has Led Expansion of Canada's Hog Inventory After WGTA Repeal



WGTA = Western Grain Transportation Act.

Economic Research Service, USDA

the post-WGTA era. Crop rotations to enhance nitrogen fixation during the last 10 years have boosted planted area of dry peas in the Prairies. Although the trend started in the early 1990s, post-WGTA

growth was significant, with farmers increasing area planted to dry peas by 221 percent in Saskatchewan and 105 percent in Alberta. Higher output of dry peas went

World Agriculture & Trade

to hog feeding, exports (up 107 percent during post-WGTA), and some food use.

Wheat Still Dominates Canada's Prairie Provinces

Historically, wheat has dominated Canadian grain production, and most of it is produced in the Western Prairie Provinces. Wheat remains Canada's major grain planted in the post-WGTA era, but its share of crop area has slowly declined since the mid-1990s. In 1999/2000, about 42 percent of total area harvested for grains and oilseeds was devoted to wheat (durum and nondurum), compared with 52 percent in 1982. The largest wheat province is Saskatchewan, which harvested more than half of total wheat area in Canada. Alberta ranked second and Manitoba third.

After WGTA repeal, Canada's wheat area dropped 16 percent from the 1989-94 average. Wheat area harvested declined in all three Prairie Provinces, down about 25 percent in Manitoba, 17 percent in Saskatchewan, and 8 percent in Alberta. In the Prairies, nontraditional crops such as potatoes, soybeans, and edible beans have become popular, and area planted to corn has started to take off again.

While western wheat area declined through the 1990s, the second half of the 1990s marked a turning point for eastern provincial wheat. Increased demand for grains following elimination of WGTA freight subsidies led to increased production of wheat, corn, and soybeans in the East. Eastern Canada wheat area increased 2 percent after the WGTA period, reversing the declining trend set earlier. Ontario wheat area increased 10 percent, with winter wheat up 8 percent and spring wheat up 39 percent.

The Manitoba agricultural landscape has changed the most. Manitoba's domestic wheat shipments of flour, cereal, and feed have increased 132 percent from 1990. With most Prairie grains exported through Western Pacific ports, the long distance to these ports caused Manitoba freight costs to increase the most after WGTA repeal. However, effective August 1, 2000, Manitoba farmers who had freight costs deducted from their CWB payments for grain shipments through the western ports of Thunder Bay or Vancouver also received a rebate from the CWB based on the proportion of wheat shipped through Manitoba's Port of Churchill in the East.

Wheat for processing use picked up after the WGTA. Although Canadian wheat area and production were down, wheat ground for flour increased about 15 percent during 1995-98, from the 1989-94 level. Flour production during the same period also increased about 16 percent. With less wheat production after WGTA repeal, Canada's wheat exports were down 15 percent overall though durum wheat exports were up.

Although canola had been a freight-subsidized commodity, higher freight costs after WGTA repeal have not diminished growth in canola production and use. In the late 1990s, Manitoba's canola area was up about 51 percent from 1989-94, followed by Saskatchewan (up 44 percent) and Alberta (up 24 percent). With higher investment after repeal, domestic crushing capacity for canola increased about 60 percent during 1995-98, compared with the 1989-94 period. Cargill, CanAmara, and Archer-Daniels-Midland (ADM) all operate oilseed processing plants in Western Canada. (ADM recently announced a plant closing, although it is expected to be temporary.) Canola, canola

oil, and canola meal exports were up about 15 percent.

While the WGTA repeal has caused shifts in agricultural production throughout Canada, the primary impact has been diversification of agriculture in the Prairie Provinces. Output is moving away from traditional grains for export and toward more nontraditional grains and oilseeds. In addition, more feed production is staying within the Prairie to supply expanding livestock operations, and more land is utilized for livestock-related activities such as hay production and pasture. With expanding livestock and processing activities, livestock's share of farm income has increased as well. **AO**

*Suchada Langley (202) 694-5227
slangley@ers.usda.gov*

Allen Baker also contributed to this article.

Upcoming Reports—USDA's Economic Research Service

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

May

- 10 World Agricultural Supply and Demand
- 11 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 Agricultural Outlook*
- 24 Sugar and Sweeteners Yearbook*
- 25 U.S. Agricultural Trade Update
- 30 Livestock, Dairy, and Poultry (4 p.m.)**

*Release of summary, 3 p.m.

**Available electronically only

Read about...

Canada's dairy policy

In an upcoming issue of *Agricultural Outlook*

Farm Finance



Farm Credit Use Expected To Rise Slightly

Total farm business debt will rise just 1.2 percent to \$182.8 billion in 2001, the smallest projected increase since debt dipped slightly in 1992. With limited potential gains in farm prices this year following the relatively low levels in 2000, farmers remain cautious about debt expansion. Also, the sector has evidently learned from the farm financial crisis of the 1980s that borrowing cannot substitute for adequate cash flow and profits.

Slow debt growth partially reflects moderate levels of expected new capital investments. In addition, adequate levels of working capital and off-farm earnings are helping farmers hold down new borrowing.

High levels of direct government payments to farmers (including emergency assistance) are also limiting demand for credit and helping to maintain farmland values. Farmers received an annual average of \$17.3 billion per year in direct payments for 1998-2001, up from \$8.8 billion for the 1990-97 period. Farmers have been maintaining or improving their balance sheets by applying some of their additional government payments to existing debt.

Nevertheless, continued low prices for many key agricultural commodities, coupled with weather problems in some regions, have generated concerns about the ability of farmers to repay new or existing loans. Many of the concerns focus on producers' ability to obtain and retain production credit. Net cash farm income, which measures cash available from sales after paying cash operating costs, declined from an annual average of \$58.1 billion in the favorable years of 1996-97 to \$55.5 billion in 1999-2000, even with sizable government assistance. Without additional emergency farm payments this year, farm lenders will be dealing with a farm sector whose net cash income is forecast to decline 10 percent to \$50.7 billion.

Although farm sector equity by the end of the year will be almost \$9 billion more than in 2000, a higher proportion of debt service capacity will be used, reducing farmers' credit reserves and exposing a larger share of farms to potential debt repayment problems. Farmers' use of net repayment capacity (debt held by farms as a share of the maximum feasible debt that farms can take on) is forecast to rise to 65 percent in 2001 (the highest level since 1985), compared with just under 60 percent in 2000. About 24 percent of farm

businesses with annual gross sales of \$50,000 or more are forecast to have debt repayment problems in 2001, up from about 21 percent the previous year.

Demand for Credit Is Moderate

The four traditional categories of institutional farm lenders are *commercial banks*, the *Farm Credit System* or FCS (a collection of federally chartered borrower-owned credit cooperatives that lend primarily to agriculture), *USDA's Farm Service Agency* or FSA (the government "farm lender of last resort"), and *life insurance companies*. Together these four classes of lenders accounted for 78.1 percent of all farm loans outstanding in 2000. The remaining share of farm credit comes from individuals and from nontraditional lenders, primarily input and machinery suppliers, cooperatives, and processors.

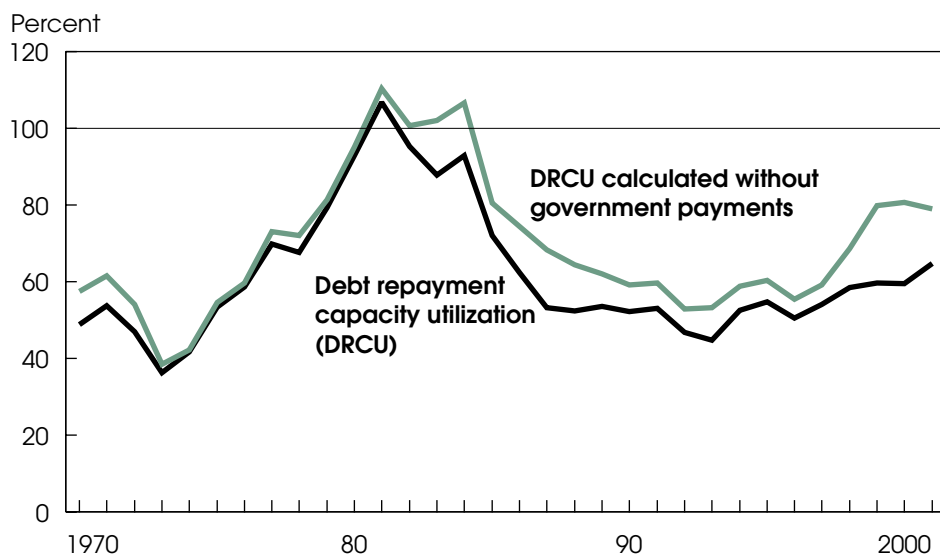
In calendar 2000, total farm business debt edged up 2.4 percent, and outstanding loan volume increased for all farm lenders except FSA. Commercial banks, with the largest share and fastest growth in loan volume, accounted for more than half the growth in total debt last year. Loan volume at commercial banks grew 3.3 percent to \$74.2 billion, followed by FCS at 3 percent to \$47.6 billion, and life insurance companies at 2.8 percent to \$11.8 billion. FSA's total direct loans outstanding decreased 5.8 percent in calendar 2000 to \$7.4 billion. The decrease resulted because large Federal program payments were substituted for credit needs and thus reduced the demand for FSA direct farm loans. At the same time FSA direct loan repayments continued at a significant rate.

The expected \$2.2-billion increase in total debt by the end of 2001 continues a prolonged expansion where farm debt rose \$5.2 billion per year, on average, between 1992 and 2000. About 40 percent of the overall increase in debt during this period occurred in 1997-98 when farmers were optimistic about business prospects following the planting flexibility provided under the 1996 Farm Act and relatively high commodity prices of 1996-97.

Farm real estate loan balances in 2001 are expected to rise slightly faster than

Farm Finance

Government Payments Have Helped Maintain Farms' Capacity To Carry Debt



2000 preliminary; 2001 forecast. DRCU=debt held by farms as a share of the maximum feasible debt that farms can take on.

Economic Research Service, USDA

nonreal estate debt, as they did last year, due partially to lender's requirement that loans for purposes other than mortgages be secured by farmland. In 2000, real estate and nonreal estate outstanding loan volume increased 3.3 and 1.3 percent, respectively.

Nonreal estate business loan volume outstanding is expected to increase about 1.2 percent to \$84.2 billion in 2001. Total planted acres for principal field crops in 2001 are forecast to decline, and even with some acreage shifts among crops, total production expenses are forecast to rise only modestly. Projections for planted acreage in 2001 for the eight major crops (corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans) are for a decrease of 1 percent to 251.5 million acres. While farmers are expected to spend about \$201.7 billion for agricultural production expenses in 2001, up only 1 percent from 2000, there is concern about future oil and gas prices, which affect a variety of farm inputs. Expenditures for seeds, fertilizer, and agricultural chemicals, at \$26.7 billion, are forecast up slightly from 2000.

Unit sales of farm tractors, combines, and other farm machinery have not recovered from the 1998 malaise, when the farm

sector economic slowdown took effect. In 2000, sales of large two-wheel drive tractors (100 horsepower and over), four-wheel drive tractors, and combines were down 35, 49, and 45 percent, respectively, from their highs in 1997 (large two-wheel drive and four-wheel drive tractors) and 1998 (combines). For 2001, the Equipment Manufacturers Institute (EMI) projects a nearly 4-percent decline for two-wheel drive tractors, a 3-percent drop for four-wheel drive tractors, and a 7-percent decrease for self-propelled combines. EMI projects year-2000 increases for 12 of the 16 equipment categories other than tractors and combines, so optimism exists for sales of certain equipment lines.

On balance, sluggish sales for "big ticket items" such as tractors and combines are likely to overshadow sales strength for other machinery lines in 2001 and moderate demand for short- and intermediate-term loans. "Captive" finance companies owned by or subsidiary to machinery companies, rather than the more traditional institutional lenders, now meet a larger share of demand for big-ticket items.

Despite expected lower economywide interest rates in 2001 (see page 23), total farm sector interest expenses (excluding households) are forecast to grow from

\$13.8 billion in 2000 to \$14.3 billion in 2001. The anticipated 1.2-percent rise in total farm sector debt, accompanied by a lag in lowering of interest rates on the existing farm loan portfolio, will contribute to the rise in interest expenses.

Real estate loan volume outstanding—loans secured by farm real estate—is forecast to increase 1.3 percent to \$99 billion in 2001. Mortgage loan volume growth is generally affected by changes in farmland values. Total U.S. farmland values as reported in USDA's farm sector balance sheet rose an estimated 0.5 percent in 2000 and are expected to advance about 1 percent in 2001—the 15th consecutive annual increase. The outlook for 2001 is tempered by the scheduled reduction in government payments.

While recent farmland value growth rates are down, they have been buoyed by government payments, off-farm employment, and urban influences in many areas. It remains unclear if recent gains in farmland value have led to corresponding increases in demand for farm mortgage credit, even in the most favorable years. There are reports that a significant portion of the price gains were driven by nonfarm investors and not by farmers. Moreover, a good share of the farmer buyers were reportedly larger operators who were able to pay wholly or in large part with cash and not via borrowing. For midsize to smaller farms, off-farm earnings have been strong in recent years, allowing farmers to bid higher on farmland tracts than agricultural-use values would indicate. Today, wide areas are subject to urban pressures that tend to override the component of farmland value that is driven primarily by the land's value in agricultural use (AO April 2001).

Can Lenders Supply Adequate Credit?

Availability of funds is not a current concern since lenders have access to more money than they can profitably lend. As always, agricultural lenders will be looking closely at the profit margin of farmers' operations when making loan decisions. If borrowers cannot show repayment ability even with government assistance in 2001, chances are they will have

Farm Finance

to curtail operations, restructure, or exit from farming.

The recent growth in farm loan demand experienced by *commercial banks* is reflected in higher loan-to-deposit ratios. Average loan-to-deposit ratios grew to 76.6 percent for agricultural banks in the year ending September 30, 2000, up from 73.5 percent a year earlier and from 57 percent 8 years earlier. Average loan-to-deposit ratios reported by the Federal Reserve System for agricultural banks increased during the year ending September 30, 2000, for all of the eight reporting Federal Reserve districts.

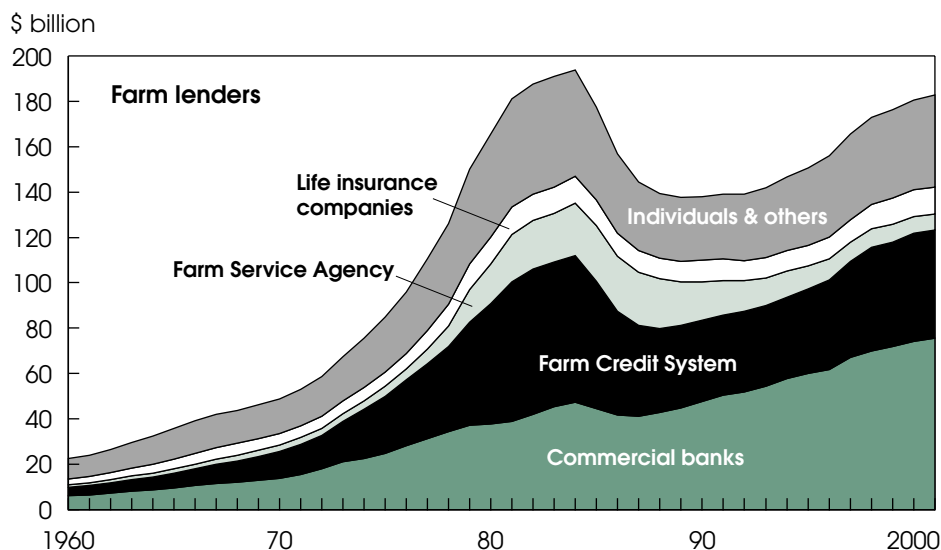
In the past, high loan-to-deposit ratios could constrain new loan origination. But today, commercial banks have many non-deposit sources of funds, such as the Federal Home Loan Bank System, and may sell farm mortgage loans to Farmer Mac. The recent jump in loan-to-deposit ratios may indicate larger reliance on these funding sources, plus sluggish growth in deposits. Thus, profitable, well-managed agricultural banks often have very high loan-to-deposit ratios. Although rural banks make considerably less use of non-deposit funds than banks headquartered in metro areas, most rural banking markets are served by banks that use nonlocal sources of funds to some extent.

Overall, adequate funds are available from banks for agricultural loans, with few banks reporting a shortage of loanable funds. Commercial bank total farm loans are projected to increase 1.8 percent in 2001, compared with 3.3 percent in 2000.

The *FCS* is in excellent financial condition and is thus well-positioned to supply farmers' credit needs in 2001. In recent years, the FCS has undergone massive restructuring of its organization and procedures. As a result, FCS gained farm loan market share 5 of the past 6 years after a gradual loss in 9 of the 10 previous years. Because of perceived government backing, the FCS can access national money markets and provide needed credit at very competitive rates.

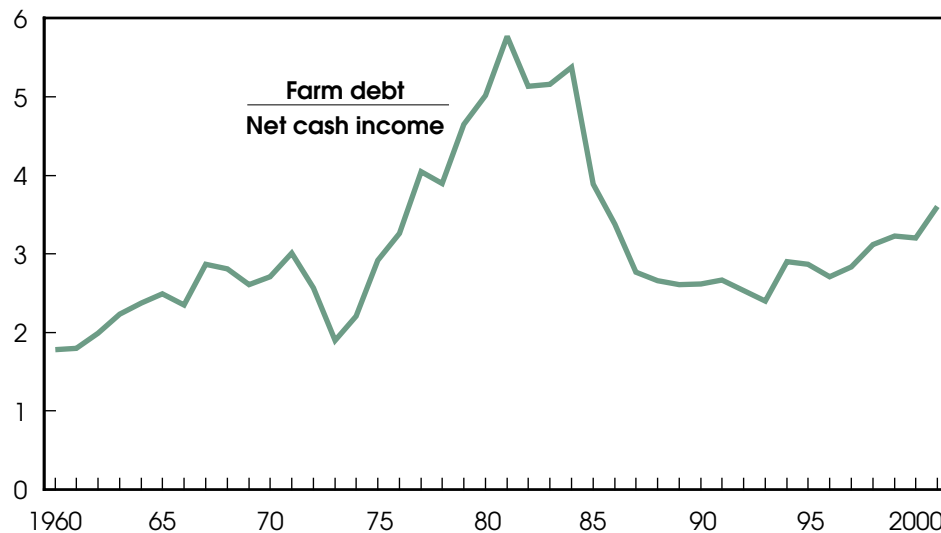
In 2001, FCS farm business debt is forecast to increase 0.2 percent following a 3-percent rise in 2000. FCS mortgage debt is expected to increase less than 1.2 per-

Total Farm Business Debt to Rise Slowly in 2001



Farm Debt Load Rose Above 3 Times Farmers' Net Cash Income in the Late 1990s

Ratio of debt to income



cent in 2001, and FCS nonreal estate loans are forecast to decline about 1.8 percent.

Farm Service Agency loans serve family-size farmers unable to obtain credit elsewhere. For fiscal 2001, FSA has \$4 billion in new lending authority. In fiscal

2000, FSA obligated \$3.7 billion in its direct and guaranteed farm loan programs. Through the first 6 months of the current fiscal year, it appears that the funding level will be sufficient to meet 2001 demand. The exception might be the direct farm ownership program that is restricted to funding farm mortgage loans

Farm Finance

and which has less lending authority for fiscal 2001 than was obligated in fiscal 2000. Another possible shortfall could occur for guaranteed operating loans made with interest rate assistance. Demand for the program is high because FSA provides a 4-percentage-point reduction in the borrower's loan interest rate. The 2001 appropriations bill gave FSA authority to transfer funds between the farm ownership and operating loan programs if funding shortfalls occur late in the year in a particular program.

Life insurance companies report adequate funds for the deals that meet their quality standards, and farm lending activity by life insurance companies is forecast up 2.4 percent in 2001 compared with 2.7 percent in 2000. During 1982-92, total industry farm mortgage holdings declined in 8 of the 11 years for an overall drop of 27.9 percent. Since then, holdings have increased each year for a total gain of 34.7 percent.

In the coming months, lenders will likely remain cautious in extending agricultural credit, due largely to uncertainty about farm commodity prices and the level of government payments. Lenders were able to manage most farm loan repayment problems last year, given the relatively

healthy recent farm incomes bolstered by the additional Federal financial assistance.

The 2001 farm financial situation is unlikely to lead to unmanageable deterioration in lenders' portfolios. But if the conditions that materialized in the agricultural sector starting in 1998 persist, lenders will increasingly face renewal requests for substandard loans and attract new customers that are less creditworthy, particularly if the level of Federal assistance packages declines. In this scenario, some farmers also would need to reconsider and reformulate their plans to use additional loans to finance operations. The year 2001 may prove to be more indicative than 2000 of the proper course of action for lenders and borrowers.

Today, despite relatively low prices, lenders appear confident about the bulk of their farm customers *given the level of Federal assistance*. Most farmers are not as heavily leveraged as a decade ago. Veteran lenders cite significant differences from the 1980s, including lower interest rates, more owner equity, better credit analysis and monitoring methods, and improved management ability of their producer-customers. Lenders thus will work with most of their customers to restructure debt and will continue to provide credit for operating expenses.

Some of the favorable prospects in farm lending likely stem from two hard-earned lessons from the 1980s: 1) credit cannot be used as a replacement for lost earnings, and 2) lenders must insist on earnings, not asset inflation, to assure repayment. The 1980s made it clear that farm businesses need to be profitable to successfully manage debt obligations.

The financial position of commercial agricultural lenders in 2001 is generally healthy. Farm lending institutions have been able to continue to build capital and maintain favorable credit quality levels in their loan portfolios. Lenders have benefited from improved management, higher loan standards, and better regulator oversight compared with the 1980s. All major lender categories continue to experience historically low levels of delinquencies, foreclosures, loan chargeoffs, and loan restructuring. Farm financial stress would not have a significant impact on aggregate national farm lender indicators such as loan delinquency rates unless the stress was sustained. The duration of relative price weakness for several major farm commodities is unclear, but the data indicate no significant problems in national lender performance to date. **AO**

*Jerome Stam (202) 694-5365, Steven Koenig, James Ryan, and Dan Milkove
jstam@ers.usda.gov*

**For more information on the demand for farm credit
and the farm lender situation, see the latest issue of
*Agricultural Income and Finance***

at <http://www.ers.usda.gov/publications/so/view.asp?f=economics/ais-bb/>

Farm Finance

Interest Rates on Farm Loans Likely to Fall Throughout 2001

In a development that may provide some relief for farmers nationwide, interest rates on agricultural loans are expected to fall throughout most of 2001. Average interest rates on farm loans from commercial banks should dip below 9 percent by midyear and may drift slightly lower in the second half of 2001.

Interest rates on agricultural loans are determined largely by factors outside the agriculture sector, although factors such as default risk, quality of loan collateral, loan size, and loan liquidity are also important in determining agricultural loan rates. Should U.S. economic growth in the second half of 2001 and the first half of 2002 strengthen as expected, interest rates on agricultural loans are likely to rise slightly in the winter or spring of 2002.

Overall, U.S. interest rates fell in the second half of 2000, reflecting slower economic growth and demand for credit. Growing foreign capital inflows, a stronger dollar, and larger Federal Government surpluses all served to push interest rates lower in the second half of 2000 by increasing the overall supply of funds available for lending. In January-April 2001, the Federal Reserve Board sharply eased monetary policy in response to a pronounced drop in economic growth and signs of further weakening in the economy. These devel-

opments put immediate downward pressure on interest rates by lowering interest rate expectations for 2001 and 2002.

By April 18, the Federal Reserve had eased monetary policy by lowering its Federal funds interest rate target by 2 percentage points. (The Federal funds rate is the interest rate on short-term borrowings of immediately available funds held at Federal Reserve Banks. In essence, depository institutions loan deposits to each other for the purpose of meeting their reserve requirements.) Lowering of the Federal funds target brought other interest rates down by lowering the expected Federal funds rate for 2001 and 2002 and by encouraging more rapid expansion in the supply of money and credit by depository institutions. Interest rates—especially short-term interest rates—should continue to fall through the first half of 2001. Sluggish economic growth in the first half of 2001 should slow the growth in the demand for money and credit, thereby encouraging additional easing of monetary policy.

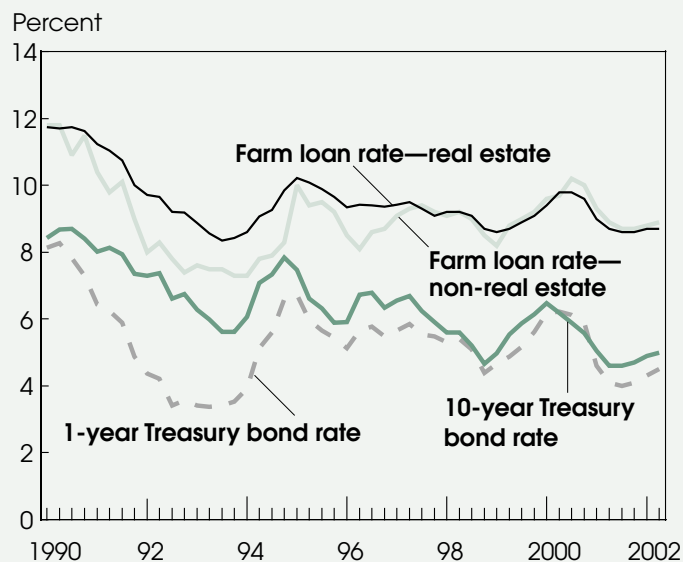
Interest rates, especially short-term rates, should continue to fall through the first half of 2001, and in general, credit growth should slow further. As manufacturers decrease production to slow the growth in business inventories, short-term business credit growth will slow. In addition, the supply of funds entering credit markets directly or indirectly from the household sector will rise if consumers, as expected, save more of their disposable income. However, economic growth is likely to increase significantly in the second half of 2001 and 2002 due to an easing of monetary policy and the accompanying sharply lower interest rates, reduction of excess inventories, gradually increasing stability in equity markets, and gradual improvement in business credit availability, in addition to an expected mild depreciation in the dollar.

Since 1999, short-term inflationary expectations have been quite consistent. Short-term median inflationary expectations (1 year ahead) have varied only by about 0.5 percent, while long-term median inflationary expectations (10 years ahead) have remained virtually unchanged at 2.5 percent, according to the Survey of Professional Forecasters. More stable overall inflationary expectations have resulted largely from stronger productivity growth, a strong U.S. dollar, and credible monetary policy designed to maintain low inflation.

Little change in underlying inflation or inflationary expectations in 2001 or 2002 relative to 2000 is likely as continued tightness in labor markets is largely offset by persistent excess capacity in manufacturing and somewhat lower energy prices. Continued strong, but slower, productivity growth and robust domestic and foreign competition will further moderate upward pressure on inflation.

Given the stability of inflationary expectations, the decline in both short- and long-term nominal interest rates since the first half of 2000 is due almost entirely to falling real interest

Farm Loan Rates at Commercial Banks Will Likely Fall For Most of 2001

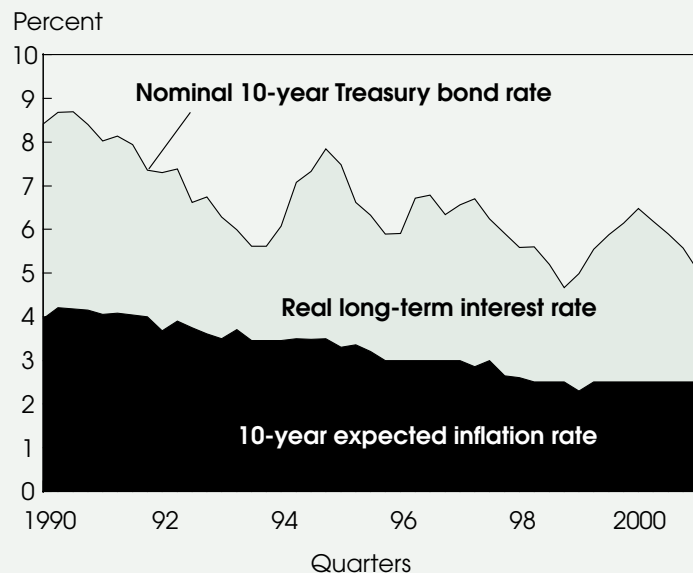
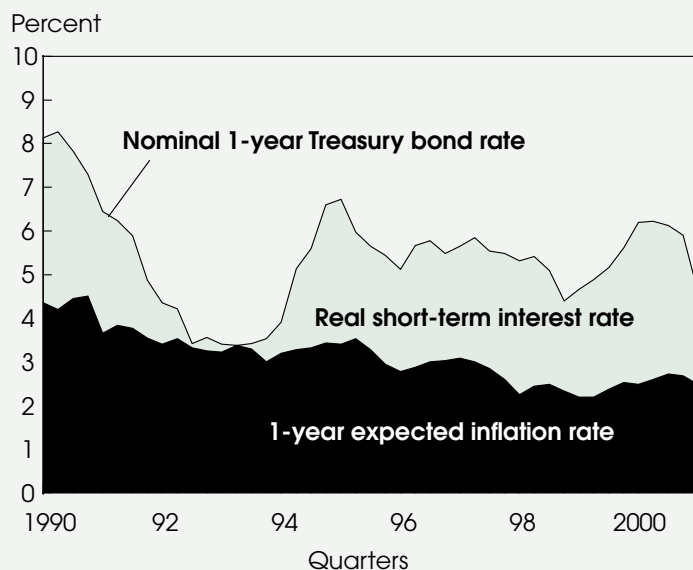


Nominal non-real estate loans and 1-year Treasury bonds are relatively short-term rates; real estate loans as well as 10-year Treasury bonds are relatively long-term. Forecast beginning 2001(II) for Treasury bonds; 2001(I) for non-real estate loans; and 2000(IV) for real estate loans. Source: Federal Reserve Board of Governors.

Economic Research Service, USDA

Farm Finance

Short- and Long-Term Interest Rates Have Declined Sharply



Expected inflation rates based on consumer price index for all urban consumers.

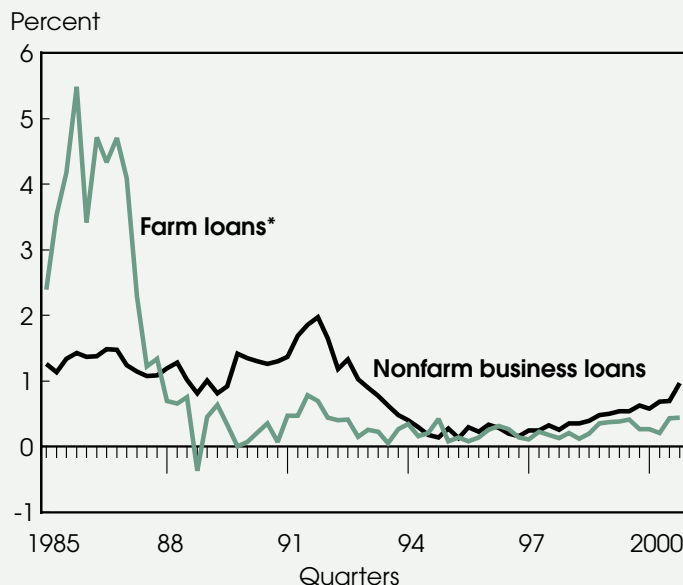
Source: For nominal Treasury bond rates, Federal Reserve Board of Governors. For expected inflation rates, Survey of Professional Forecasters (compiled by the Federal Reserve Bank of Philadelphia).

Economic Research Service, USDA

rates (the nominal rate minus the inflation rate). Consequently, the dip in interest rates since the first half of 2000 represents a decrease in the real cost of money and over time should encourage more borrowing.

Real interest rates in the first half of 2001 will be under downward pressure from both an easing of monetary policy and an expected increase in the rate of consumer saving out of personal disposable income. A higher personal savings

Charge-off Rate for Farm Loans Has Remained Low



Loan charge-off rate is the share of loans removed from total loan portfolios as uncollectable (bank incurs loss).

*Non-real estate loans.

Source: Federal Reserve Board of Governors.

Economic Research Service, USDA

rate will lower interest rates by increasing the supply of funds available in credit markets.

While the consumer savings rate was 2.2 percent in 1999, it fell to -0.1 for 2000. The consumer savings rate should rise to positive levels in 2001 in response to lower consumer wealth (caused by falling equity values), the large drop in consumer confidence since the third quarter of 2000, and rising consumer debt burdens. Consumer debt burdens—defined as principal and interest payments as a percentage of disposable personal income—rose appreciably in 1999 and 2000. Higher debt burdens, by reducing consumers' overall liquidity and ability to acquire additional debt, should be significant in raising the consumer savings rate in 2001 and 2002.

Both farm and nonfarm loan rates are expected to fall appreciably in the first half of 2001. Rates charged on farm loans in the long term must earn competitive risk-adjusted returns for lenders that are comparable to risk-adjusted returns from nonfarm loans and other financial assets. Therefore, the fall in real interest rates in the general economy will continue to place downward pressure on farm loan rates charged by private lenders. However, rates on farm loans will fall less than most interest rates in the general economy for a number of reasons.

First, rural banks are heavily dependent on consumer deposits (checking and savings accounts, plus time deposits of less than \$100,000) for the bulk of their loan funds. Interest rates paid on these deposits typically respond sluggishly to changes in open market interest rates.

Second, changes in deposit interest rates typically affect loan rates at rural banks relatively slowly. Banks generally prefer to keep their small business loan rates more stable by determining their loan funds costs on an average cost-of-funds basis, thus keeping the interest rate margin fairly stable between the expected return from lending (expected interest rate paid by borrowers) and the expected average interest rate paid to depositors. Finally, given the overall weaker farm income outlook for 2001 and tighter credit standards and terms for business lending in general, some increase in risk premiums on agricultural loans are likely for 2001.

Default premiums on farm loans have been relatively low by historical standards. Furthermore, the charge-off rate (share of loans removed from a bank's portfolio as uncollectable) has been lower for farm loans in recent years than for general business loans. The relatively low charge-off rate for agricultural loans in the 1990s reflected agriculture's diverse and expanding domestic and foreign customer base as well as government payments to agriculture that help support and reduce variability in farm income. A mild increase in the charge-off rate for agricultural loans in 2001 is likely.

With net farm income expected to decline in 2001 (due in large part to lower expected government payments to agriculture), overall farm interest expense as a share of farm income is expected to decline, making farm loans somewhat riskier. Furthermore, delinquency rates on nonreal estate farm loans rose slightly in the second half of 2000. Given the somewhat higher perceived risk in agricultural lending, the spread between interest rates charged on agricultural loans not secured by real estate and on those secured by real estate will likely widen slightly in 2001.

In summary, weaker overall growth in demand for credit, and increased overall supply of credit in the macroeconomy, will place downward pressure on farm interest rates in 2001. The fall in interest rates on farm loans will be less than for interest rates in general, due to rural banks' generally sluggish adjustment in consumer deposit interest rates, the desire of these banks to keep small business loan rates more stable, and an expected mild increase in risk premiums on farm loans. **AO**

*Paul Sundell (202) 694-5333
psundell@ers.usda.gov*

Revised farm income forecasts for 2001

May 25 on the Economic Research Service website

Farm Income and Costs Briefing Room

www.ers.usda.gov/Briefing/FarmIncome/

Click on "Farm income forecasts"

Check out other analyses and data related to farm income and costs

Resources & Environment



Agri-Environmental Payments: Rewarding Farmers for Environmental Performance

Environmental issues are increasingly prominent in farm policy debates. There is growing interest in developing a program of agri-environmental payments to producers based on use of environmentally sound practices or achievement of a high level of environmental performance on land in agricultural production. Such a program could help to maintain past agri-environmental gains, to address emerging environmental problems (e.g., nutrient runoff), and perhaps to support farm income.

A program to offer environmental payments to farmers is not a new idea. For more than 60 years, the Federal government has offered cost sharing for adoption of conservation practices that have beneficial effects on the environment. (For more on farmers' adoption of conservation practices, see article on page 32). Periodically, the government has paid for retiring land from crop production—e.g., the Conservation Reserve Program.

But unlike current programs, agri-environmental payments could reward producers who already have reached a high level of environmental performance—so-called “good actors.” Payments could be set to

exceed producer costs for installing or adopting conservation management systems or technical practices, and could add directly to farm income. Senator Tom Harkin (D-IA) has introduced legislation—the Conservation Security Act (CSA)—that proposes a type of agri-environmental payment program.

This article addresses the role of explicit objectives in assuring success of an agri-environmental payment program, the potential for unintended consequences in a subsidy program, and the value of coordination among all types of agricultural programs. While no specific legislative proposal is analyzed, the discussion applies broadly to agri-environmental program design. A number of insights are gleaned from past programs as well as from analysis of three hypothetical agri-environmental payment program scenarios: 1) pay farmers who reach a high level of environmental performance but impose a penalty for bringing highly erodible land (HEL) into production; 2) same as #1 but no penalty for adding HEL to planted area; and 3) pay farmers for improving environmental performance.

Designing an Effective Program

An agri-environmental payment program could entail a wide range of environmental and farm income objectives. Once objectives are established, program design and implementation will largely determine how the program performs in terms of environmental gains, costs of achieving the gains, and distribution of costs (or benefits) among farmers, taxpayers, and consumers. More specifically, performance depends largely on how much is paid to whom and for taking what action.

Guidelines for designing an effective agri-environmental payments program include the following:

- explicitly address each program objective in eligibility criteria;
- minimize incentives for cropland expansion;
- coordinate agri-environmental payments with other farm programs; and
- coordinate land retirement with payments to reward good environmental performance on land in agricultural production.

Explicitly address each program objective in eligibility criteria. Suppose that the explicit program objective is to reduce erosion and the expectation is that payments from an erosion reduction program will support farm income. Unless producer eligibility is determined according to criteria related to both objectives—i.e., making both objectives explicit—program performance with respect to the implicit objective (supporting farm income) may not be fully satisfactory. Focusing on one objective alone might exclude either farms that could contribute to the environmental goal or farms that are in need of farm income support. While eligibility does not guarantee that farmers will participate in an agri-environmental payment program, excluding farms that could contribute virtually ensures that both program objectives cannot be fully achieved.

For example, consider conservation compliance requirements that are part of existing farm policy. Producers must apply government-approved conservation systems on highly erodible cropland to be

Resources & Environment

ERS Cross-Analysis of Farm Characteristics & Environmental Indicators

Agriculture affects a wide range of environmental resources (e.g., water quality), which provide many environmental amenities (e.g., water-based recreation). Data on environmental indicators are from a county-level geographic information system that assigns an indicator value to each farm included in USDA's Agricultural Resource Management Study (ARMS). The ARMS conducted annually by the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS) collects data on characteristics of U.S. farms. The ARMS is designed to capture the physical, financial, demographic, and managerial attributes of farm businesses and people engaged in farming. Information from the ARMS is used to classify farms into categories of the ERS farm typology.

Many indicators of potential environmental damage could be used to determine eligibility of land for agri-environmental payments. Three indicators used for illustrative purposes are:

- *Rainfall erosion acreage*—non-highly erodible cropland with rainfall erosion rates greater than the soil loss tolerance—i.e., the rate of erosion a soil can withstand without long-term productivity damage;
- *Wind erosion acreage*—non-highly erodible cropland with wind erosion rates greater than the soil loss tolerance;
- *Nitrogen runoff acreage*—cropland acreage where nitrogen runoff to surface water is estimated to exceed 1,000 kg/km²/year (classified as “high” by U.S. Geological Survey (USGS) researchers).

Soil erosion indicators are based on non-highly erodible cropland because it is not currently subject to the conservation compliance requirements that apply to highly erodible land. The erosion indicators are calculated from National Resources Inventory data, and the nitrogen runoff indicator is calculated from USGS estimates.

erosion, wind erosion, or nitrogen runoff indicators.

Likewise, focusing an agri-environmental program on a particular environmental issue is not likely to solve farm income problems, particularly if policymakers want to direct support to specific groups. For example, nearly 70 percent of small family farms (annual gross sales under \$250,000) would qualify for payments by the rainfall erosion indicator, but only about 22 percent would be eligible for payments under the wind erosion indicator.

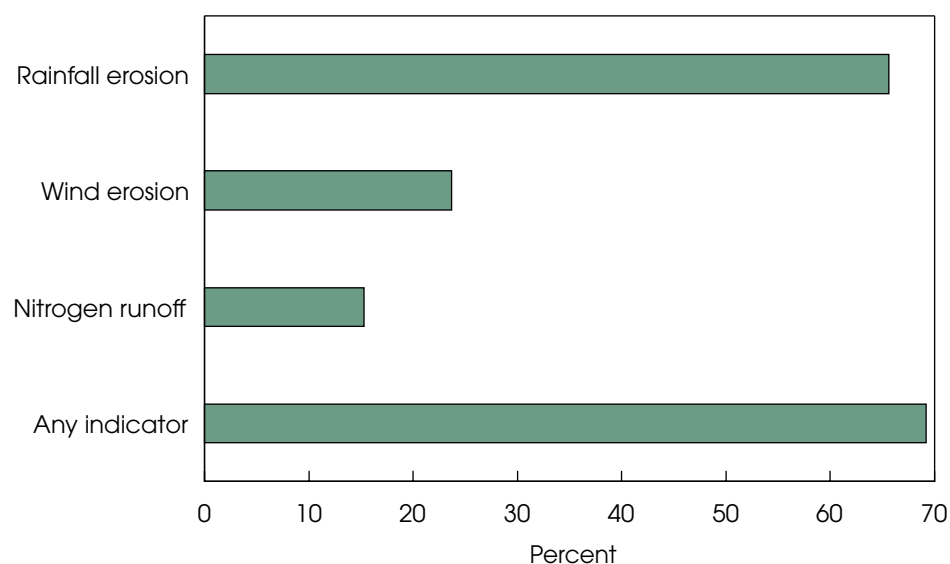
Minimize incentives for cropland expansion. If subsidy rates are high enough for specific levels of environmental performance (e.g., soil conservation) or use of environmentally sound practices (such as conservation tillage), producers might be encouraged to plant land not previously used as cropland. For example, cropland acreage may expand if:

- payments are made for relatively good performance but do not require improvement;
- payments exceed the cost of required conservation systems; and

eligible for payments under price and income support programs. Although conservation compliance has leveraged better conservation on the share of highly erodible cropland controlled by participating producers, not all producers participate in USDA programs so not all highly erodible cropland is covered. As a result, conservation compliance cannot fully address erosion on highly erodible land.

To explore these issues more generally, farm-level data from USDA's Agricultural Resource Management Study (ARMS) were linked with a number of environmental indicators. The farms were then grouped according to the farm typology developed by USDA's Economic Research Service (ERS) (AO November 1999). Analysis shows that focusing a conservation program on a specific farm type (e.g., large family farms) is not likely to solve a particular agri-environmental problem. No single group of farms delineated in the ERS typology accounts for more than 25 percent of the acres identified by rainfall

Share of Small Farms with Land Identified by Environmental Indicators*



Small farms are those with annual gross sales under \$250,000.

*Indicators of potential for environmental damage.

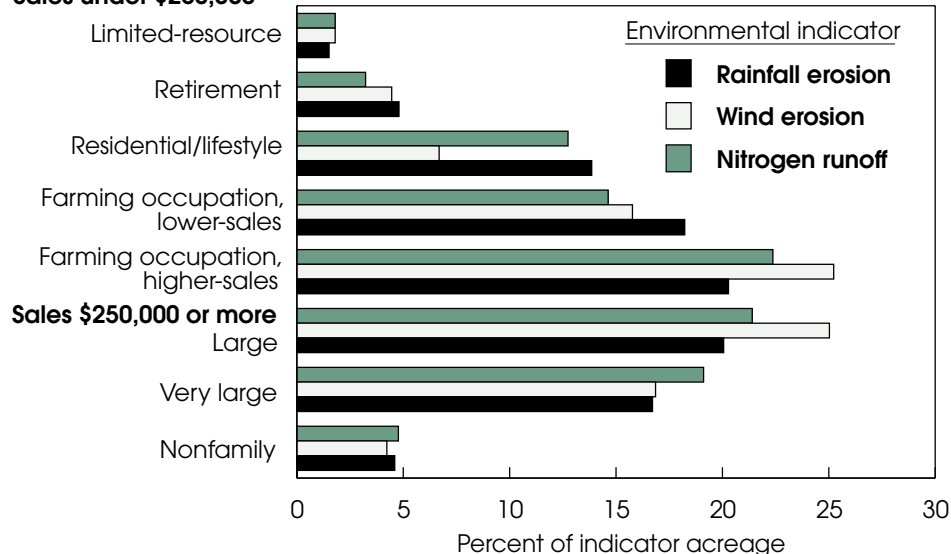
Economic Research Service, USDA

Resources & Environment

Land Identified by Three Environmental Indicators*: Acreage Shares by Farm Type

ERS Farm Typology

Sales under \$250,000



*Indicators of potential for environmental damage.

Economic Research Service, USDA

- payment eligibility is extended to previously uncropped land.

When improvement in environmental performance is not required to receive agri-environmental payments, overall environmental performance may worsen because of additions to cropland. Increased environmental damage on land not previously in crop production will offset, at least partially, environmental gains on other cropland. Even if producers use good environmental and conservation practices, converting land from grass or trees to crop production will almost surely increase soil erosion, nutrient runoff, or other environmental damage.

Despite the potential for unintended consequences, implementation of a program with this latitude is not unrealistic. Payment for good performance can reward “good actors” for past environmental improvements—often achieved without subsidies—and can help maintain both privately and publicly funded conservation investments. Moreover, measuring environmental improvement may not be possible. Unless the field-by-field practices and environmental conditions exist-

ing before the program are known to the government, environmental improvement

cannot be measured. For example, if the timing and rate of the existing nutrient application are unknown to the government, improvement from implementation of a new nutrient management plan is impossible to assess. In many cases, potential environmental benefits to society may be larger than the cost of conservation systems to farmers, providing a rationale for payments that exceed costs. Payments must be larger than farmers’ costs if the program is to provide direct farm income support.

When payments exceed producer costs and environmental improvement is not required, the status of previously uncropped land is critical. Consider two alternative program design scenarios. In both, producers are paid on the basis of “good performance,” and payments can exceed producers’ costs for achieving that level of performance. However, in one good performance program scenario, producers are severely penalized by loss of USDA farm program benefits for expanding cropland acres by planting on previously uncropped highly erodible land. In this scenario, erosion reduction ranges from 20 million tons to 40 million tons

ERS Farm Typology Groups

Small Family Farms (sales less than \$250,000)

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

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

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

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

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

Other Farms

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

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

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

Resources & Environment

Agri-Environmental Payment Programs: Simulation Analysis

To illustrate the effects of program design on program performance, ERS simulated the environmental and economic effects of three agri-environmental payment program scenarios.

Scenario I: Good performance. A producer receives a payment if the estimated rate of soil erosion on the farm is below a benchmark rate for similar soils in the same region. This benchmark is the estimated erosion rate using predominant crop rotations (e.g., corn-soybeans in the Corn Belt) and conventional tillage systems. Producers are paid only if erosion rates are below the benchmark rate. Although erosion rates are often low on pasture and woodland, non-cropland is excluded because of the large acreage and potentially prohibitive expense. Previously uncropped land can be eligible for payments. However, producers are penalized if additional highly erodible land is brought into crop production. Magnitude of the penalty is approximately the amount of farm price and income support benefits and similar to the potential penalty for violation of conservation compliance.

Scenario II: Good performance, no penalty for adding highly erodible cropland. Same as good performance scenario but no penalty is assessed for bringing additional highly erodible land into crop production.

Scenario III: Improved performance. Producers receive payment for taking any action that reduces soil erosion from a pre-program baseline, no matter how good or bad the pre-program performance.

The objective of each scenario is to increase water quality by reducing sediment loads from cropland. The scenarios are hypothetical and illustrative only. They do not represent analysis of any specific policy proposal, although insights gained are relevant. Payments depend on a producer's soil conservation performance. The payment rate ranges roughly from \$1 to \$16 per ton of soil conserved and varies regionally depending on potential water quality benefits. These benefit estimates are likely to be a lower bound to actual benefits because some water quality benefits have not been measured.

Economic and environmental effects of alternative agri-environmental payment program scenarios were analyzed using the U.S. Regional Agricultural Sector Model (USMP) developed by USDA's Economic Research Service. With its linkage to the Erosion/Productivity Impact Calculator (EPIC), USMP can estimate how changes in environmental or other policies affect U.S. production, demand, trade, input use, environmental indicators, and commodity prices. USMP includes 44 agricultural commodities and processed products as well as 23 inputs, and the model is disaggregated into 45 geographic regions within the U.S.

per year as total payments to producers range from \$1 billion to \$3 billion.

In the second good performance program scenario, producers are not penalized for expanding crop production onto previously uncropped highly erodible land. Producers can receive an agri-environmental payment on this land if they use a conservation system that achieves a good performance, even if overall soil erosion for all the farm's cropland increases from previous levels. In this program scenario, the increase in soil erosion caused by produc-

tion on previously uncropped land more than offsets erosion reduction from improved conservation practices on existing cropland.

Coordinate agri-environmental payments with other farm programs. Coordination of environmental programs with other farm programs can help to achieve all agricultural policy objectives at minimum cost to society or, conversely, the greatest possible environmental or farm income gain within a given cost constraint, such as Federal budget limitations.

One objective of coordination is to avoid conflicts that reduce the effectiveness of individual programs. For example, the swampbuster provision of farm legislation, in order to eliminate program incentives to expand crop production onto wetland, penalized farmers who did so. Producers who drain wetlands for crop production become ineligible for farm program payments.

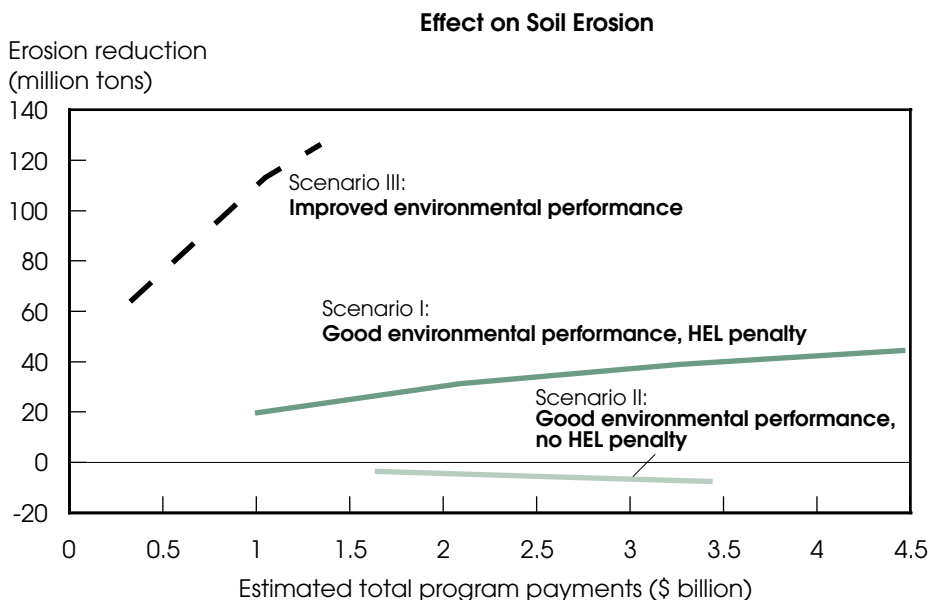
Coordinate land retirement with payments to reward good environmental performance on working land. In pursuing agri-environmental objectives, it may be best to coordinate land retirement programs for environmentally sensitive land with programs to encourage improved conservation/environmental practices on less sensitive land. To illustrate this point, ERS estimated the effects of making agri-environmental payments for improved environmental performance only (e.g., reducing soil erosion from previous levels). While this scenario is not particularly realistic because of the difficulty of measuring improvement, a retirement/improvement program is a good standard of comparison because it focuses resources on erosion reduction and subsidizes the widest possible range of strategies for soil erosion reduction, helping to identify strategies for environmental improvement that are not encouraged by other approaches.

Net erosion reduction per dollar of producer payment is much larger in the improved performance scenario than in the good performance scenarios. One reason for this difference is that a significant share of payments in the good performance scenario is devoted to rewarding producers who have already achieved a high level of environmental performance. Thus, only a portion of payments funds further erosion reduction.

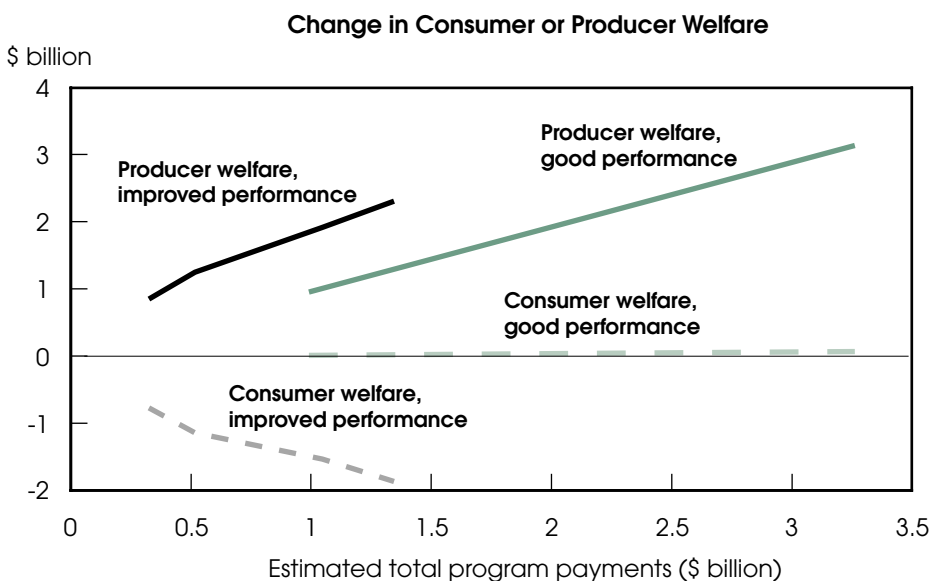
A second key reason for this difference is that land retirement is encouraged by the improved performance scenario but not by the good performance scenario. When program payments are \$1 billion, producers in the improved performance scenario retire 8 million acres of highly erodible land from crop production. Even if land retirement achieves only a 10-ton-per-acre reduction in soil erosion, it would bring about 80 million tons in soil erosion

Resources & Environment

Payments to Farmers for Environmental Performance



HEL penalty = Loss of some or all USDA program benefits for bringing into production land designated as highly erodible. Negatives indicate net increase in soil erosion.



Economic Research Service, USDA

reduction. In contrast, HEL cropland acreage is unchanged in the good performance scenario. Thus, if agri-environmental payments are extended for good performance on land in crop production, policymakers may want to coordinate these payments with a land retirement program to capture additional environmental gains.

Farm Income & Welfare Effects

The three policy scenarios simulated by ERS do not have a farm income objective, but they do have farm income effects. Because the environmental objective is narrow (reduce sediment damage to water quality), cross-analysis of farm characteristics with environmental indicators suggests that farm income gains may not be

widely shared. Nonetheless, a number of insights can be derived by examining gains in farm income and consumer welfare relative to producer payments (a cost to taxpayers).

Because an agri-environmental payment program would be voluntary, producers would participate only if payments exceed their participation costs. Consequently, farm income would increase even if producers were prompted to retire land or to adopt practices that are less productive as well as less erosive. Crop producers can also benefit from higher crop prices that could result from a decline in overall production. While crop producers gain, however, livestock producers and consumers would experience a downside as feed and other crop products rise in price.

The good performance and improved performance scenarios all support farm income, but in different ways. In the good performance scenario with a penalty for expanding production on HEL, most payments reward producers who have already achieved good performance. Erosion reduction and associated costs are modest, so payments pass through to farm income almost on a dollar-for-dollar basis. Because there is little adjustment in the farm sector with the good performance scenario, commodity price effects are quite small and consumers are largely unaffected.

In contrast, the improved performance scenario results in much greater erosion reduction and larger commodity price effects as producers change production practices or retire land to reduce erosion. In aggregate, farm income rises due to receipt of payments and higher crop prices, even though livestock producers pay higher feed grain prices. Consumers bear some of the cost of higher farm income through steeper prices for products made with crop commodities, while taxpayers shoulder a smaller burden than in the good performance scenario for given level of benefits.

As noted above, however, because of lack of meaningful measurements it is not practical to base payments on improved performance. Moreover, development of such a measurement system would increase program delivery costs. If policy-

Resources & Environment

makers develop payments based on good performance coordinated with land retirement (a more realistic scenario), taxpayers will bear the cost both of compensation to producers who have already achieved a high level of environmental performance and of payments for land retirement.

Agri-environmental payments are a potentially important part of the agricultural policy toolbox. These payments may allow policymakers to zero in on agri-environmental issues while providing income support to agricultural producers.

Program performance, however, depends largely on the details of program design and implementation. In devising a practical program, policymakers may want to consider each objective explicitly; exercise caution to avoid unintended consequences; coordinate with other agricultural programs; and consider whether environmental issues on a specific field are best addressed through land retirement or improved conservation/environmental practices.

These principles, together with efforts to target payments to producers who can achieve the greatest environmental gain per dollar of cost and to allow individual producers the flexibility to select least-cost alternatives for achieving environmental goals (*AO* June-July 2000), can help to ensure that environmental and other objectives are achieved at a minimum cost to society. **AO**

*Roger Claassen (202) 694-5473,
Mark Peters, LeRoy Hansen,
and Mitch Morehart
claassen@ers.usda.gov*

Want to know more?

Agri-Environmental Policy at the Crossroads: Guideposts on a Changing Landscape

Details on:

- available conservation policy tools
- design features that have improved the effectiveness of current programs
- implications for designing an agri-environmental payments program

Read it on the Economic Research Service website
www.ers.usda.gov/publications/aer794

To order hard copies call 1-800-999-6779
Stock number AER-794



Resources & Environment



The Change to Conservation: Moving Farmers Toward New Production Practices

How much do government conservation programs actually influence farmers' decisions to adopt production practices that conserve natural resources? USDA has a number of programs that encourage farmers to use environmentally beneficial production practices and technologies on their farms. Most of these programs are voluntary, involving offers of technical assistance, education, demonstrations, and cost sharing. But what really motivates farmers to operate in a manner that enhances conservation efforts?

The department's Economic Research Service (ERS) examined over the last decade why America's farmers choose to adopt—or not adopt—nutrient (e.g., nitrogen), pest, soil, and water management practices beneficial to the environment. In particular, the ERS-led study—called the Area Studies Project—assessed how government policies, resources, and education influence farmers to use such practices, and how differences in kinds of crops, types of technology, and particularly geographic regions can further affect those decisions. Specific characteristics of the local landscape and climate, for instance, may make certain practices impossible to

implement, and will ultimately determine an area's vulnerability to various kinds of agricultural pollution.

Variations in land and climate, by shaping farmers' decisions about the practices they can implement, also determine the ultimate efficacy of government conservation policies—just as changes in policies determine which practices farmers choose to implement and the environmental impacts stemming from those practices. Understanding these forces and how they interrelate is crucial to determining which production practices are likely to be attractive to farmers, and how effectively they will be employed.

New Ways of Doing Business

Like most people operating a business, farmers want to use production methods that maximize profits, given existing prices, policies, personal preferences, and available resources. If farmers choose not to adopt new conservation practices, it is generally because 1) adopting those practices is less, or no more, profitable than continuing with traditional practices, or 2) other considerations interfere—even if adopting the new practices would lead to

larger profits. Consequently, policies designed to encourage farmers to adopt certain practices must take into account these different orientations.

When a new conservation practice is introduced, it is natural for farmers to be uncertain about whether it will work in their area. In fact, the practice may have to be modified significantly before it can be successfully employed in a particular region or on a particular farm. As interested local farmers adopt and gain more experience with the new practice—and as their fellow farmers learn more about the practice from them, from the extension service, or from the media—the associated uncertainties and costs recede.

Nonetheless, some farmers may still choose not to adopt a practice for a variety of reasons. The practice may not suit environmental conditions on their farms, the size of their farms, or the types of operations they run; it may interfere with other practices they customarily employ; or skills levels needed for successful implementation may vary among farmers. To be fully effective, then, government policies designed to promote the adoption of conservation technologies and management strategies depend on a clear understanding of how and why farmers choose certain production practices. (For more on designing effective government conservation programs, see article on page 26.)

The Area Studies Project Survey

In an effort to determine how farmers make decisions to adopt or reject new practices, ERS launched the Area Studies Project in 1991, in collaboration with USDA's National Agricultural Statistics Service and Natural Resources Conservation Service. The U.S. Geological Survey and the U.S. Environmental Protection Agency were also extensively involved. For the next 3 years (1991-93), a survey team collected data from farmers operating in 10 U.S. watersheds, spread throughout the country. All these areas were under study by the U.S. Geological Survey's National Water Quality Assessment Program, which was initiating an extensive effort to monitor water quality.

In each watershed, the Area Studies team designed the survey that was conducted

Resources & Environment

Association of Farm and Operator Characteristics with Adoption of Agricultural Production Practices

	Production practices									
	Any soil conservation	Soil and water quality ¹	Residue management for pest control	Biological pest control	Scout for pests	Modern nutrient practices		Traditional nutrient practices		Decision to irrigate
						Nitrogen testing ²	Split nitrogen application ³	Legumes	Manure	
Operator characteristic:										
Education level	+	*	-	+	+		+			+
Degree of farming experience			-	-*	-*	-				-
Land ownership	-				-			-	+	+
Farm program participation		+			+	+	+	+		+
Seek expert advice	+	+	+	+	+	+	+			na
Use of crop insurance	+				+	+		-		
Farm characteristic:										
Farm size	+			+	+	+		-*	-	-
Use of irrigation			+	+	+	+	+	+	+	na
Rainfall	+	+	+				+		na	-
Temperature	+		+	+			+	na	-	+
Soil productivity	+	+			-*	+	-	+	+	na

Effect on adoption: + = positive; - = negative; blank = no effect; na = not applicable.

Area Studies Project-combined-area model. Statistical relationships are confirmed with 95 percent confidence (90 percent for items with *).

1. Use of practices designed to prevent soil from being transported to waterways once soil has left the field (grassed waterways, filter strips, grade stabilization structures, and critical area plantings). 2. Nitrogen tests to determine fertilizer needs. 3. Applying half or less of required amount of nitrogen for crop production at or before planting, with remainder applied after emergence.

Economic Research Service, USDA

through extensive personal interviews with farmers to determine the kinds of operations they ran and their agricultural production practices. The team gathered a wealth of information on farmers (e.g., age and education level) and on how they work: kinds of crops and animals they raised; cropping, tillage, and soil conservation practices they had employed for the past 3 years; biological and chemical pest control methods they used in individual fields and on the farm as a whole; and how they tested soil, applied manure, sought information about fertilizer, and actually used fertilizer. The farmers were asked about a wide range of practices used to manage nutrients, pests, soil, and water, along with participation in government programs and use of crop insurance. The survey sample was chosen to correspond to sample points from the National Resources Inventory (NRI).

After collecting information from the farmers, Area Studies researchers matched it with information from the NRI about environmental characteristics such as soil erosion potential, leaching potential, and productivity, as well as regional temperature and rainfall. Researchers looked at the relationship of these factors to various technologies, cropping systems, and watersheds to identify principal factors discouraging farmers from adopting certain conservation practices. Area Studies researchers analyzed adoption of soil conservation and sediment reduction practices (e.g., conservation tillage and filter strips), pest management practices (e.g., rotations and professional scouting), and modern nutrient management practices (e.g., N-testing and split nitrogen applications).

Each analysis used the same set of variables to compare influences of knowl-

edge, government policy, and farm and natural resource characteristics on a farmer's decision to adopt a specific practice. Data from all the watersheds were initially combined for each analysis. Analysis was then conducted on selected individual areas to determine whether the conclusions were similar, or whether combining the data for all the watersheds had skewed the results.

The Will to Change

The sheer amount and richness of the Area Studies survey data offered researchers a unique opportunity to perform a wide range of analyses that would assess farmers' receptivity to new production practices. Clearly, for the 10-watershed area as a whole, education had a significantly positive effect on farmers' willingness to adopt practices that require specialized knowledge such as biological

Resources & Environment

pest control or split nitrogen applications. This means that government agencies or other technology providers will need to consider the increasing complexity of new practices when targeting certain groups of farmers. Technical assistance, demonstrations, or consulting services may be the keys to encouraging farmers to adopt these practices. Interestingly, experienced farmers are less likely to adopt information-intensive practices than novices.

Researchers had initially hypothesized that farmers who owned their land would be more likely to invest in new practices than farmers who simply rented. However, ownership was less of a factor than expected, perhaps in part because most of the practices included in the study did not require a major financial outlay.

Farmers who owned their land were indeed more likely than renters to invest in new irrigation technologies, which are initially quite expensive, but the difference between the two groups was small. Farmers who chose to invest in irrigation were also considerably more likely to adopt the pest and nutrient management practices considered in the study. That result is not surprising: because water is the primary conduit for chemicals that end up in ground or surface water, water and chemical management naturally go together. Managing water is harder for farmers who rely exclusively on rain to water their

The 10 watersheds included in the Area Studies Project are: 1) Central Nebraska River Basins, 2) the White River Basin in Indiana, 3) the Lower Susquehanna River Basin in Pennsylvania, and 4) the Mid-Columbia River Basin in Washington (all surveyed in 1991); 5) the Albemarle-Pamlico Drainage in Virginia, 6) the Georgia Coastal Plain, 7) Illinois/Iowa Basin, and 8) the Upper Snake River Basin in Idaho (1992); and 9) the Southern High Plains in Texas, and 10) the Mississippi Embayment, which includes parts of Arkansas, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee (1993).

crops, and so their chemical management strategies may be less effective.

Farmers who participated in government programs and benefited from expert advice were much more likely to use virtually all the preferred practices to conserve soil, deal with pests, and manage nutrients. At the time the Area Studies survey was conducted, farmers who received benefits from a number of USDA programs were required to use conservation practices: for instance, farmers whose farms had potentially critical erosion problems had to adopt relevant conservation practices in order to participate in the programs. However, the study findings suggest that the availability and use of technical assistance

would in any case have helped determine the choices they made to use specific practices. Extension and education efforts are both important tools for promoting the adoption of new production practices—especially with regard to practices that require specialized knowledge and practices designed to protect the environment beyond the farm gate.

When considering specific regions, certain resources (e.g., soil characteristics and climate) often proved to be a significant factor in farmers' decisions to adopt some of the practices—confirming the idea that site-specific information about resources is vital to examining and explaining success or failure of conservation efforts. Accordingly, it is important to remember that the results above represent an aggregation of data gathered from 10 distinct watersheds, and that important information can be lost in the process of combining such data. From a policy perspective, it means that incentives developed to address environmental concerns identified in an analysis of several regions may actually be appropriate for only one region and counterproductive if used in others. Also, results from individual watersheds can be useful in addressing issues such as water quality, specific to that particular watershed or site. **AO**

*Margriet Caswell (202) 694-5540
mcaswell@ers.usda.gov*

What makes farmers opt for conservation?

Data and details on farmers' use of:

- soil management practices
- pest management practices
- water management practices
- nutrient management practices

In the recently released ERS report:

*Adoption of Agricultural Production Practices:
Lessons Learned from the U.S. Department of Agriculture Area Studies Project*
AER No. 792

www.ers.usda.gov/publications/aer792/

Statistical Indicators

Summary Data

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

	2000						2001			
	1999	2000	2001	II	III	IV	I	II	III	IV
Prices received by farmers (1990-92=100)	96	97	--	101	97	96	100	--	--	--
Livestock & products	95	98	--	100	98	99	103	--	--	--
Crops	97	96	--	102	96	95	97	--	--	--
Prices paid by farmers (1990-92=100)										
Production items	111	116	--	116	116	117	124	--	--	--
Commodities and services, interest, taxes, and wage rates (PPITW)	115	120	--	119	119	121	120	--	--	--
Cash receipts (\$ bil.)	189	196	200	47	44	48	57	48	43	51
Livestock	95	99	100	25	25	25	25	25	25	25
Crops	93	97	100	22	18	24	32	23	19	26
Market basket (1982-84=100)										
Retail cost	167	171	--	169	172	173	--	--	--	--
Farm value	98	97	--	96	97	100	--	--	--	--
Spread	205	210	--	209	211	212	--	--	--	--
Farm value/retail cost (%)	21	20	--	20	20	20	--	--	--	--
Retail prices (1982-84=100)										
All food	164	168	172	167	169	170	172	172	172	173
At home	164	168	172	167	169	170	172	172	172	173
Away from home	165	169	173	168	170	171	172	173	174	175
Agricultural exports (\$ bil.) ¹	49.2	50.9	53.0	12.0	12.2	14.4	13.3	12.8	12.5	14.0
Agricultural imports (\$ bil.) ¹	37.3	38.9	40.0	10.2	9.1	9.7	9.7	10.0	10.7	10.0
Commercial production										
Red meat (mil. lb.)	46,134	46,150	45,094	11,288	11,623	11,634	11,135	11,329	11,402	11,228
Poultry (mil. lb.)	35,590	36,427	36,925	9,287	9,070	9,050	9,005	9,360	9,230	9,330
Eggs (mil. doz.)	6,912	7,035	7,075	1,744	1,751	1,786	1,750	1,745	1,760	1,820
Milk (bil. lb.)	162.7	167.7	167.1	43.2	41.2	40.7	41.7	43.2	41.0	41.2
Consumption, per capita										
Red meat and poultry (lb.)	220.3	219.5	216.7	54.9	55.2	55.5	53.1	54.4	54.1	55.1
Corn beginning stocks (mil. bu.) ²	1,307.8	1,787.0	1,717.5	8,039.4	5,601.9	3,585.9	1,717.5	8,522.2	6,037.4	--
Corn use (mil. bu.) ²	9,298.3	9,514.8	9,745.0	2,441.0	2,021.5	1,870.7	3,165.0	2,487.3	--	--
Prices ³										
Choice steers--Neb. Direct (\$/cwt)	65.56	69.65	74-77	71.59	65.43	72.26	79.11	72-74	72-78	72-78
Barrows and gilts--IA, So. MN (\$/cwt)	34.00	44.70	42.44	50.43	46.43	40.78	42.83	46-48	45-49	35-37
Broilers--12-city (cents/lb.)	58.10	56.20	57-60	55.70	56.80	57.60	57.80	58-60	58-62	56-60
Eggs--NY gr. A large (cents/doz.)	65.60	68.90	74-78	62.10	67.10	83.10	75.80	70-72	74-80	77-83
Milk--all at plant (\$/cwt)	14.36	12.34	13.85-	12.03	12.70	12.73	13.27	13.65-	14.00-	14.45-
		0.00						14.05	14.70	15.45
Wheat--KC HRW ordinary (\$/bu.)	2.92	3.08	--	2.95	3.00	3.44	--	--	--	--
Corn--Chicago (\$/bu.)	2.01	1.97	--	2.16	1.64	2.01	2.03	--	--	--
Soybeans--Chicago (\$/bu.)	4.61	4.86	--	5.20	4.60	4.70	4.48	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	52.31	57.47	--	55.68	58.36	61.24	52.66	--	--	--
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Farm real estate values ⁴										
Nominal (\$ per acre)	703	713	740	798	844	887	926	974	1,020	1,050
Real (1982 \$)	521	507	514	540	558	572	586	606	627	636
U.S. civilian employment (mil.) ⁵	126.3	128.1	129.2	131.1	132.3	133.9	136.3	137.7	139.4	--
Food and fiber (mil.)	23.7	23.1	23.6	24.2	24.5	24.2	24.1	24.0	24.3	--
Farm sector (mil.)	2.0	1.9	1.8	1.9	2.0	2.0	1.9	1.8	1.7	--
U.S. gross domestic product (\$ bil.)	5,986.2	6,318.9	6,642.3	7,054.3	7,400.5	7,813.2	8,318.4	8,790.2	9,299.2	--
Food and fiber--net value added (\$ bil.)	877.5	924.8	965.7	1,066.2	1,126.5	1,210.4	1,317.1	1,446.4	1,521.4	--
Farm sector--net value added (\$ bil.) ⁶	71.1	75.5	73.1	78.3	75.3	86.7	83.5	74.8	69.8	--

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

U.S. & Foreign Economic Data

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

	1999						2000			
	1998	1999	2000	II	III	IV	I	II	III	IV
<i>Billions of current dollars (quarterly data seasonally adjusted at annual rates)</i>										
Gross Domestic Product	8,790.2	9,299.2	9,963.1	9,191.5	9,340.9	9,559.7	9,752.7	9,945.7	10,039.4	10,114.4
Gross National Product	8,750.0	9,236.2	9,958.7	9,181.8	9,327.3	9,546.3	9,745.0	9,937.4	10,030.5	10,121.8
Personal consumption expenditures	5,850.9	6,268.7	6,757.3	6,213.2	6,319.9	6,446.2	6,621.7	6,706.3	6,810.8	6,890.2
Durable goods	693.9	761.3	820.3	756.3	767.2	787.6	826.3	814.3	824.7	815.8
Nondurable goods	1,707.6	1,845.5	2,010.0	1,825.3	1,860.0	1,910.2	1,963.9	1,997.6	2,031.5	2,046.9
Food	845.8	897.8	953.2	886.6	900.4	926.1	938.4	948.3	959.9	966.2
Clothing and shoes	286.4	307.0	328.3	306.1	308.7	311.9	323.1	325.6	330.9	333.6
Services	3,449.3	3,661.9	3,927.0	3,631.5	3,692.7	3,748.5	3,831.6	3,894.4	3,954.6	4,027.5
Gross private domestic investment	1,549.9	1,650.1	1,832.7	1,607.9	1,659.1	1,723.7	1,755.7	1,852.6	1,869.3	1,853.3
Fixed investment	1,472.9	1,606.8	1,778.2	1,593.4	1,622.4	1,651.0	1,725.8	1,780.5	1,803.0	1,803.5
Change in private inventories	77.0	43.3	54.5	14.5	36.7	72.7	29.9	72.0	66.4	49.8
Net exports of goods and services	-151.5	-254.0	-370.7	-240.4	-280.5	-299.1	-335.2	-355.4	-389.5	-402.7
Government consumption expenditures and gross investment	1,540.9	1,634.4	1,743.7	1,610.9	1,642.4	1,688.8	1,710.4	1,742.2	1,748.8	1,773.6
<i>Billions of 1996 dollars (quarterly data seasonally adjusted at annual rates) ¹</i>										
Gross Domestic Product	8,515.7	8,875.8	9,318.5	8,783.2	8,905.8	9,084.1	9,191.8	9,318.9	9,369.5	9,393.7
Gross National Product	8,515.1	8,868.3	9,316.6	8,776.7	8,895.4	9,075.0	9,187.7	9,313.7	9,362.8	9,402.2
Personal consumption expenditures	5,678.7	5,978.8	6,294.3	5,940.2	6,013.8	6,101.0	6,213.5	6,260.6	6,329.8	6,373.3
Durable goods	727.3	817.8	896.0	810.5	826.2	851.8	898.2	886.7	903.2	896.0
Nondurable goods	1,684.8	1,779.4	1,869.0	1,765.0	1,786.1	1,818.1	1,844.8	1,861.1	1,882.6	1,887.4
Food	812.8	845.9	877.3	838.0	846.7	866.0	872.2	876.5	879.1	881.4
Clothing and shoes	292.2	318.5	345.1	316.5	322.1	322.1	337.7	342.3	350.2	350.0
Services	3,269.4	3,390.8	3,543.9	3,373.4	3,411.1	3,443.0	3,487.2	3,526.7	3,559.3	3,602.5
Gross private domestic investment	1,566.8	1,669.7	1,839.8	1,623.1	1,680.8	1,751.6	1,773.6	1,863.0	1,871.1	1,851.5
Fixed investment	1,485.3	1,621.4	1,771.7	1,607.1	1,637.8	1,666.6	1,730.9	1,777.6	1,791.3	1,787.1
Change in private inventories	80.2	45.3	60.9	13.1	39.1	80.9	36.6	78.6	72.5	55.7
Net exports of goods and services	-221.0	-322.4	-412.4	-314.6	-342.6	-352.5	-376.8	-403.4	-427.7	-441.7
Government consumption expenditures and gross investment	1,486.4	1,536.1	1,579.2	1,519.9	1,537.8	1,569.5	1,565.1	1,583.7	1,578.2	1,589.6
GDP implicit price deflator (% change)	1.3	1.5	2.0	1.4	0.9	1.3	3.3	2.4	1.6	2.0
Disposable personal income (\$ bil.)	6,320.0	6,637.7	6,989.8	6,596.3	6,664.5	6,775.0	6,866.5	6,964.9	7,040.9	7,087.0
Disposable pers. income (1996 \$ bil.)	6,134.1	6,331.0	6,511.0	6,306.6	6,341.7	6,412.2	6,443.1	6,502.0	6,543.7	6,555.3
Per capita disposable pers. income (\$)	23,359	24,314	25,379	24,196	24,384	24,728	25,014	25,322	25,535	25,641
Per capita disp. pers. income (1996 \$)	22,672	23,191	23,640	23,133	23,203	23,404	23,472	23,639	23,732	23,718
U.S. resident population plus Armed Forces overseas (mil.) ²	270.5	272.9	275.4	272.5	273.2	273.9	274.4	275.0	275.6	276.3
Civilian population (mil.) ²	269.0	271.5	273.9	271.1	271.7	272.4	273.0	273.5	274.2	274.9
<i>Monthly data seasonally adjusted</i>										
	Annual			2000					2001	
	1998	1999	2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Total industrial production (1992=100)	138.2	144.8	153.6	149.9	155.1	154.9	154.1	152.9	152.0	151.3
Leading economic indicators (1992=100)	105.4	108.8	109.9	110.3	109.8	109.4	109.1	108.5	109.0	108.8
Civilian employment (mil. persons) ³	131.5	133.5	135.2	135.1	135.3	135.5	135.5	135.8	136.0	135.8
Civilian unemployment rate (%) ³	4.5	4.2	4.0	4.1	3.9	3.9	4.0	4.0	4.2	4.2
Personal income (\$ bil. annual rate)	7,391.0	7,789.6	8,281.7	8,099.6	8,420.6	8,406.0	8,422.1	8,461.0	8,503.5	8,537.9
Money stock-M2 (daily avg.) (\$ bil.) ⁴	4,383.4	4,650.0	4,943.3	4,686.4	4,865.3	4,887.1	4,904.1	4,943.3	4,993.8	5,038.4
Three-month Treasury bill rate (%)	4.81	4.66	5.85	5.57	6.00	6.10	6.19	5.83	5.27	4.93
AAA corporate bond yield (Moody's) (%)	6.53	7.04	7.62	7.68	7.62	7.55	7.45	7.21	7.15	7.10
Total housing starts (1,000) ⁵	1,616.9	1,666.5	1,593.1	1,822	1,537	1,529	1,564	1,577	1,653	1,647
Business inventory/sales ratio ⁶	1.39	1.35	1.33	1.32	1.34	1.35	1.36	1.36	1.37	--
Sales of all retail stores (\$ bil.) ⁷	2,745.6	2,994.9	--	266.8	272.7	272.5	270.9	271.3	274.9	274.8
Nondurable goods stores (\$ bil.)	1,609.2	1,739.9	--	154.1	160.5	160.8	160.6	161.1	163.0	162.3
Food stores (\$ bil.)	435.4	458.3	--	39.2	40.6	40.8	40.8	41.2	41.3	41.6
Apparel and accessory stores (\$ bil.)	127.0	135.1	--	11.6	12.1	12.1	12.0	12.1	12.3	12.4
Eating and drinking places (\$ bil.)	266.4	285.4	--	25.0	25.8	25.7	25.8	25.8	26.6	26.4

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

Table 3—World Economic Growth

	Calendar year									
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<i>Real GDP, annual percent change</i>										
World	1.5	3.1	2.7	3.1	3.4	2.1	2.9	4.0	2.3	3.1
less U.S.	1.1	2.7	2.8	3.0	3.1	1.3	2.4	3.7	2.5	3.2
Developed economies	0.9	2.8	2.3	2.7	3.1	2.4	2.8	3.6	1.7	2.5
less U.S.	0.1	2.3	2.1	2.2	2.4	1.5	2.0	2.9	1.7	2.3
United States	2.7	4.0	2.7	3.6	4.4	4.4	4.2	5.0	1.7	2.8
Canada	2.3	4.7	2.8	1.5	4.4	3.3	4.5	4.7	2.9	3.1
Japan	0.5	1.0	1.6	3.3	1.9	-1.1	0.8	1.7	0.1	1.1
Australia	3.7	5.2	3.8	4.1	4.0	5.3	4.7	3.7	1.8	3.5
European Union	-0.4	2.7	2.4	1.6	2.5	2.8	2.5	3.4	2.4	2.9
Transition economies	-6.6	-8.9	-1.5	-1.0	1.1	-1.5	2.3	5.7	3.8	4.0
Eastern Europe	1.0	2.9	5.7	4.2	2.4	1.8	2.0	3.8	3.7	4.4
Poland	3.8	5.2	7.0	6.1	6.9	4.8	4.0	4.2	3.5	4.5
Former Soviet Union	-10.0	-14.8	-5.9	-4.5	0.2	-4.0	2.5	7.2	3.8	3.6
Russia	-8.7	-12.6	-4.1	-3.5	0.8	-4.6	3.2	7.6	3.9	3.7
Developing economies	5.8	6.3	5.3	5.8	5.4	1.2	3.3	5.7	4.4	5.4
Asia	7.9	8.8	8.3	7.4	5.9	0.5	6.3	7.2	5.4	6.5
East Asia	9.1	9.8	8.8	7.8	7.0	2.0	7.5	8.1	5.8	6.9
China	13.5	12.6	10.5	9.6	8.8	7.8	7.1	8.0	7.6	8.5
Taiwan	7.0	7.1	6.4	6.1	6.7	4.6	5.4	6.0	4.3	5.0
Korea	5.5	8.2	8.9	6.7	5.0	-6.7	10.9	8.8	3.8	5.1
Southeast Asia	7.7	7.9	8.1	7.1	4.7	-6.3	3.6	5.8	4.0	5.5
Indonesia	7.3	7.5	8.2	7.8	4.7	-13.2	0.7	4.8	3.8	5.7
Malaysia	8.3	9.2	9.5	8.6	7.8	-7.2	5.6	8.6	4.9	6.4
Philippines	2.1	4.4	4.7	5.8	5.2	-0.5	3.2	4.0	2.2	3.8
Thailand	8.4	8.9	8.8	5.5	-0.4	-10.8	4.2	4.3	3.5	5.6
South Asia	4.5	7.0	7.4	6.7	4.4	5.7	5.7	5.9	5.8	6.5
India	5.0	7.9	8.0	7.3	5.0	6.1	6.3	6.3	6.3	7.0
Pakistan	1.9	3.9	5.1	4.7	-0.4	3.7	3.0	3.9	2.7	3.7
Latin America	4.3	5.3	1.4	3.6	5.1	1.8	0.0	3.7	3.8	4.2
Mexico	1.9	4.4	-5.6	5.0	6.8	4.4	3.6	6.9	4.1	4.5
Caribbean/Central	4.7	4.0	3.2	3.6	5.8	6.1	3.4	4.4	4.4	4.6
South America	4.9	5.6	3.1	3.3	4.8	1.2	-1.0	2.9	3.7	4.2
Argentina	5.9	5.8	-2.8	5.5	8.1	3.9	-3.1	-0.4	0.9	2.3
Brazil	4.9	5.9	4.2	2.8	3.2	0.1	0.8	4.0	4.8	4.5
Colombia	5.4	5.8	5.2	2.0	2.8	0.6	-4.5	3.4	4.0	6.4
Venezuela	0.3	-2.3	3.7	-0.5	6.5	-0.7	-7.3	2.6	3.1	3.0
Middle East	3.9	-0.2	3.7	4.3	4.7	2.2	-1.6	4.8	0.7	3.9
Israel	5.6	6.9	7.0	4.6	2.2	1.9	2.1	5.4	2.8	4.0
Saudi Arabia	-0.6	0.5	0.5	1.4	1.9	2.3	-1.1	3.5	3.0	2.5
Turkey	8.7	-5.2	7.8	7.0	7.5	2.8	-5.6	7.1	-3.8	5.9
Africa	1.0	3.2	2.9	5.2	2.8	3.1	2.9	3.7	4.1	3.7
North Africa	0.5	3.9	1.5	6.5	2.6	5.6	3.8	4.3	4.6	4.0
Egypt	2.9	3.9	4.7	5.0	5.5	5.6	6.0	5.0	4.5	4.2
Sub-Saharan	1.4	2.6	3.9	4.3	2.9	1.3	2.3	3.3	3.7	3.4
South Africa	1.2	3.2	3.1	4.2	2.5	0.5	1.9	3.1	3.4	3.2
<i>Consumer prices, annual percent change</i>										
Developed economies	3.1	2.6	2.6	2.4	2.1	1.5	1.4	2.3	2.1	--
Transition economies	634.4	274.1	133.5	42.4	27.3	21.8	43.8	18.3	12.5	--
Developing economies	48.7	54.7	23.2	15.3	9.7	10.1	6.6	6.2	5.2	--
Asia	10.8	16.0	13.2	8.3	4.7	7.5	2.4	2.4	3.3	--
Latin America	194.6	200.3	36.0	21.6	13.4	10.2	9.3	8.9	7.0	--
Middle East	26.6	33.2	39.2	26.9	25.4	25.3	20.4	17.4	9.5	--
Africa	39.0	54.8	35.2	30.2	13.6	9.1	11.8	12.7	8.6	--

-- = Not available. The last 3 years are either estimates or forecasts. Sources: Oxford Economic Forecasting; International Financial Statistics, IMF.
 Information contact: Andy Jerardo (202) 694-5323, ajerardo@ers.usda.gov

Farm Prices

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

	Annual			2000				2001		
	1998	1999	2000	Mar	Oct	Nov	Dec	Jan	Feb	Mar
<i>1990-92=100</i>										
Prices received										
All farm products	101	96	97	96	93	98	98	97	100	104
All crops	107	97	96	95	91	97	96	94	98	100
Food grains	103	90	86	86	88	92	94	93	91	93
Feed grains and hay	100	86	86	90	80	85	90	89	90	89
Cotton	107	85	82	79	92	96	96	86	81	82
Tobacco	104	102	106	109	104	113	113	118	118	105
Oil-bearing crops	107	83	85	88	81	84	88	84	80	77
Fruit and nuts, all	113	117	103	94	120	107	85	91	92	104
Commercial vegetables	121	109	121	107	124	143	112	120	144	144
Potatoes and dry beans	99	100	95	104	76	77	78	78	85	94
Livestock and products	97	95	98	96	96	100	101	100	102	107
Meat animals	79	83	94	95	92	92	95	97	98	103
Dairy products	119	110	94	91	96	96	100	101	100	104
Poultry and eggs	117	111	110	104	107	119	114	105	112	119
Prices paid										
Commodities and services, interest, taxes, and wage rates (PPITW)	115	115	120	119	121	121	122	124	124	124
Production items	113	111	116	115	117	117	118	120	120	120
Feed	110	100	101	102	100	102	106	109	106	102
Livestock and poultry	88	95	110	108	111	112	115	111	108	109
Seeds	122	121	123	121	124	124	124	124	124	124
Fertilizer	112	105	110	106	115	116	119	134	139	144
Agricultural chemicals	122	121	120	120	120	119	120	127	126	127
Fuels	84	93	136	134	152	155	146	143	143	140
Supplies and repairs	119	121	124	123	124	125	125	126	125	125
Autos and trucks	119	119	119	119	118	119	119	120	119	119
Farm machinery	132	135	137	138	137	137	137	137	137	137
Building material	118	120	121	122	121	121	121	120	121	121
Farm services	115	116	118	117	119	118	118	119	119	119
Rent	120	113	113	113	113	113	113	114	114	114
Interest payable per acre on farm real estate debt	104	106	110	110	110	110	110	116	116	116
Taxes payable per acre on farm real estate	119	120	123	123	123	123	123	123	123	123
Wage rates (seasonally adjusted)	129	135	140	140	143	143	143	149	149	149
Prod. items, interest, taxes & wage rates (PITW)	114	113	118	117	119	119	120	123	122	122
Ratio, prices received to prices paid (%)*	88	83	81	81	77	81	80	78	81	84
Prices received (1910-14=100)	644	608	615	608	591	624	624	614	634	659
Prices paid, etc. (parity index) (1910-14=100)	1,532	1,531	1,592	1,585	1,609	1,612	1,621	1,651	1,647	1,645
Parity ratio (1910-14=100) (%)*	42	40	39	38	37	39	38	37	38	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			2000				2001		
	1997	1998	1999	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Crops										
All wheat (\$/bu.)	3.38	2.65	2.55	2.59	2.68	2.83	2.87	2.85	2.83	2.89
Rice, rough (\$/cwt)	9.70	8.89	6.00	5.71	5.61	5.63	5.60	5.84	5.72	5.70
Corn (\$/bu.)	2.43	1.94	1.90	2.03	1.74	1.86	1.97	1.98	1.96	1.91
Sorghum (\$/cwt)	3.95	2.97	2.95	3.21	3.01	3.27	3.54	3.37	3.48	3.42
All hay, baled (\$/ton)	100.00	84.60	77.00	74.80	85.20	85.00	85.10	84.90	86.80	87.20
Soybeans (\$/bu.)	6.47	4.93	4.75	4.91	4.45	4.55	4.78	4.68	4.46	4.29
Cotton, upland (¢/lb.)	65.20	60.20	44.90	47.70	55.90	58.00	58.00	52.30	49.10	49.60
Potatoes (\$/cwt)	5.62	5.56	5.84	6.26	4.33	4.40	4.61	4.56	5.02	5.62
Lettuce (\$/cwt) ²	17.50	16.10	13.30	14.00	16.10	20.20	12.00	13.70	23.20	20.90
Tomatoes, fresh (\$/cwt) ²	31.70	35.20	25.90	30.00	42.60	46.10	33.00	43.80	28.70	44.70
Onions (\$/cwt)	12.60	13.80	9.78	6.67	11.00	10.60	11.60	13.90	14.10	15.20
Beans, dry edible (\$/cwt)	19.30	19.00	17.60	14.50	15.60	15.40	14.40	15.00	15.20	14.80
Apples for fresh use (¢/lb.)	22.10	17.30	21.20	19.80	21.80	18.50	18.10	16.10	15.20	14.20
Pears for fresh use (\$/ton)	276.00	291.00	294.00	334.00	377.00	378.00	301.00	340.00	251.00	274.00
Oranges, all uses (\$/box) ³	4.22	4.29	5.94	3.82	1.09	3.16	2.94	2.82	3.29	4.13
Grapefruit, all uses (\$/box) ³	1.93	2.00	3.22	3.83	5.17	3.09	2.20	1.87	2.07	1.53
Livestock										
Cattle, all beef (\$/cwt)	63.10	59.60	63.40	69.80	66.70	69.10	71.90	74.80	74.80	77.00
Calves (\$/cwt)	78.90	78.80	87.70	109.00	102.00	106.00	106.00	108.00	109.00	111.00
Hogs, all (\$/cwt)	52.90	34.40	30.30	41.70	41.40	36.40	39.80	37.20	39.10	45.10
Lambs (\$/cwt)	90.30	72.30	74.50	80.20	76.80	71.50	71.80	74.10	80.10	--
All milk, sold to plants (\$/cwt)	13.36	15.46	14.38	11.90	12.50	12.60	13.10	13.20	13.00	13.60
Milk, manuf. grade (\$/cwt)	12.17	14.24	12.86	10.10	10.80	10.40	10.80	10.90	11.10	11.80
Broilers, live (¢/lb.)	37.70	39.30	37.10	34.90	33.00	38.00	35.00	34.00	37.00	40.00
Eggs, all (¢/doz.) ⁴	70.30	66.80	62.70	57.40	68.50	74.00	83.30	67.20	68.20	69.10
Turkeys (¢/lb.)	39.90	38.00	40.80	38.20	45.90	47.00	40.50	36.60	36.30	37.10

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

Producer & Consumer Prices

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

	Annual			2000				2001		
	1998	1999	2000	Mar	Oct	Nov	Dec	Jan	Feb	Mar
<i>1982-84=100</i>										
Consumer Price Index, all items	163.0	166.6	172.1	171.1	174.0	174.1	174.0	175.1	175.8	176.2
CPI, all items less food	163.6	167.0	172.9	171.9	174.9	175.0	174.7	175.9	176.6	177.1
All food	160.7	164.1	167.8	166.5	169.1	168.9	170.0	170.9	171.3	171.7
Food away from home	161.1	165.1	169.0	167.9	170.3	170.4	170.8	171.4	171.8	172.3
Food at home	161.1	164.2	167.9	166.4	169.1	168.8	170.2	171.3	171.8	172.0
Meats ¹	141.6	142.3	150.7	148.3	152.9	152.5	152.9	154.1	156.5	157.9
Beef and veal	136.5	139.2	148.1	145.7	148.9	149.3	150.9	154.8	158.6	160.1
Pork	148.5	145.9	156.5	153.8	160.7	158.0	157.2	156.7	157.9	159.4
Poultry	157.1	157.9	159.8	158.6	162.1	157.2	160.7	160.8	161.8	162.6
Fish and seafood	181.7	185.3	190.4	189.9	192.8	189.6	189.5	192.8	193.0	190.7
Eggs	135.4	128.1	131.9	127.1	136.1	140.4	145.5	150.4	142.9	139.2
Dairy and related products ²	150.8	159.6	160.7	159.1	161.9	161.4	161.5	163.6	163.6	163.2
Fats and oils ³	146.9	148.3	147.4	145.9	149.7	146.5	150.2	153.0	152.6	153.1
Fresh fruits	246.5	266.3	258.3	257.9	262.6	262.8	269.0	261.8	253.5	257.3
Fresh vegetables	215.8	209.3	219.4	212.1	218.6	224.6	240.2	235.9	240.6	238.2
Potatoes	185.2	193.1	196.3	197.9	191.5	181.2	179.4	186.6	186.8	189.3
Cereals and bakery products	181.1	185.0	188.3	186.1	190.1	189.0	190.7	191.1	191.9	191.9
Sugar and sweets	150.2	152.3	154.0	154.6	153.9	153.0	153.5	155.7	155.8	155.7
Nonalcoholic beverages ⁴	133.0	134.3	137.8	138.5	137.4	137.9	136.7	139.4	139.9	139.5
Apparel										
Footwear	128.0	125.7	123.8	124.7	125.3	125.4	123.8	121.4	122.6	125.2
Tobacco and smoking products	274.8	355.8	394.9	387.3	396.7	411.0	396.6	404.3	408.5	407.7
Alcoholic beverages	165.7	169.7	174.7	173.5	175.9	176.4	176.5	177.2	177.7	177.8

1. Beef, veal, lamb, pork, and processed meat. 2. Included butter through December 1997. 3. Includes butter as of January 1998. 4. Includes fruit juices as of January 1998. 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			2000				2001		
	1997	1998	1999	Mar	Oct	Nov	Dec	Jan	Feb	Mar
1982=100										
All commodities	127.6	124.4	125.5	130.8	135.4	135.0	135.7	138.8	136.5	135.9
Finished goods ¹	131.8	130.6	133.0	136.8	140.1	140.0	139.7	141.2	141.5	141.0
All foods ²	132.8	132.4	132.2	131.9	133.8	133.8	133.6	134.1	135.3	136.8
Consumer foods	134.5	134.3	135.1	136.0	138.0	138.2	137.9	138.4	139.5	140.9
Fresh fruits and melons	99.4	90.0	103.6	96.0	95.6	93.3	92.5	96.5	88.5	90.9
Fresh and dry vegetables	123.1	139.5	118.0	122.4	143.9	149.2	110.8	128.8	145.8	156.0
Dried and dehydrated fruits	124.9	124.4	121.2	122.4	125.3	124.3	119.7	121.8	121.9	121.5
Canned fruits and juices	137.6	134.4	137.8	140.1	139.7	139.7	140.5	142.2	142.4	142.4
Frozen fruits, juices and ades	117.2	116.1	123.0	123.4	116.8	116.4	116.1	116.4	115.8	115.2
Fresh veg. except potatoes	121.3	137.9	117.7	122.3	165.0	173.9	121.7	147.0	171.3	183.2
Canned vegetables and juices	120.1	121.5	120.9	121.2	121.6	121.7	121.5	121.1	121.4	121.4
Frozen vegetables	125.8	125.4	126.1	125.7	126.9	126.1	126.7	125.9	128.5	127.0
Potatoes	106.1	122.5	126.9	99.2	93.4	91.9	90.8	88.4	86.6	98.5
Eggs for fresh use (1991=100)	97.1	90.1	77.9	70.0	90.7	99.7	109.3	95.7	89.6	88.2
Bakery products	173.9	175.8	178.0	180.6	184.1	184.5	184.6	185.0	185.8	187.3
Meats	111.6	101.4	104.6	112.4	112.2	112.2	115.1	115.6	117.4	121.3
Beef and veal	102.8	99.5	106.3	111.2	112.3	114.5	118.9	121.9	123.1	125.9
Pork	123.1	96.6	96.0	111.7	109.1	105.5	109.1	104.9	108.5	116.6
Processed poultry	117.4	120.7	114.0	110.9	116.4	116.6	113.6	109.3	112.2	113.5
Unprocessed and packaged fish	178.1	183.0	190.9	198.3	194.4	190.0	192.5	193.1	211.4	200.1
Dairy products	128.1	138.1	139.2	131.0	134.4	135.2	136.8	136.8	136.1	138.6
Processed fruits and vegetables	126.4	125.8	128.1	129.1	128.2	127.9	127.4	127.6	128.1	127.8
Shortening and cooking oil	137.8	143.4	140.4	132.8	133.0	132.9	132.4	129.6	129.2	131.6
Soft drinks	133.2	134.8	137.9	143.8	144.3	144.6	144.3	146.6	146.8	147.7
Finished consumer goods less foods	128.2	126.4	130.5	136.8	141.6	141.3	140.8	143.3	143.6	142.1
Alcoholic beverages	135.1	135.2	136.7	138.0	142.8	142.0	143.5	143.4	143.2	144.7
Apparel	125.7	126.6	127.1	127.6	127.6	127.5	127.1	127.0	127.0	126.7
Footwear	143.7	144.7	144.5	144.8	145.1	144.9	145.5	144.9	146.2	146.1
Tobacco products	248.9	283.4	374.0	398.9	403.8	403.9	404.2	426.7	426.9	426.8
Intermediate materials ³	125.6	123.0	123.2	127.8	130.8	130.5	130.6	131.5	131.3	130.8
Materials for food manufacturing	123.2	123.1	120.8	118.1	119.1	118.9	119.8	120.4	120.3	122.3
Flour	118.7	109.2	104.3	102.6	107.8	106.1	106.1	107.5	107.0	108.9
Refined sugar ⁴	123.6	119.8	121.0	113.2	106.2	106.0	106.0	107.7	110.4	108.1
Crude vegetable oils	116.6	131.1	90.2	80.2	68.0	66.0	63.8	61.1	59.3	65.6
Crude materials ⁵	111.1	96.7	98.2	112.9	130.3	128.4	136.2	155.0	133.2	131.5
Foodstuffs and feedstuffs	112.2	103.8	98.7	101.4	99.5	100.4	103.9	105.3	104.5	108.9
Fruits and vegetables and nuts ⁶	115.5	117.2	117.4	111.9	121.5	121.6	106.0	115.5	117.6	123.0
Grains	111.2	93.4	80.1	85.9	76.3	81.2	81.2	86.6	80.5	84.5
Slaughter livestock	96.3	82.3	86.4	98.3	93.1	94.3	100.9	100.9	102.3	107.9
Slaughter poultry, live	131.0	141.4	129.9	117.8	130.8	134.7	129.1	124.3	123.6	129.3
Plant and animal fibers	117.0	110.4	86.5	97.6	101.4	101.2	100.2	92.8	92.1	80.5
Fluid milk	97.5	112.6	106.3	89.3	93.8	90.1	96.6	100.2	97.5	102.0
Oilseeds	140.8	114.4	90.8	98.3	89.9	90.0	94.7	93.6	86.5	86.9
Leaf tobacco	105.1	104.6	101.6	105.2	106.4	104.3	115.8	119.9	121.4	107.0
Raw cane sugar	116.8	117.2	113.7	99.9	110.5	111.4	109.3	112.2	122.1	111.7

-- = 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/blshtml> and a Producer Prices Information Hotline at (202) 606-7705.

Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual			2000					2001	
	1998	1999	2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Market basket ¹										
Retail cost (1982-84=100)	163.1	167.3	170.6	168.6	171.9	172.3	171.9	174.0	174.7	175.1
Farm value (1982-84=100)	103.3	98.3	97.0	94.0	98.8	97.4	100.6	101.4	100.6	100.3
Farm-retail spread (1982-84=100)	195.4	204.5	210.2	208.8	211.3	212.6	210.4	213.1	214.6	215.4
Farm value-retail cost (%)	22.2	20.6	19.9	19.5	20.1	19.8	20.5	20.4	20.2	20.1
Meat products										
Retail cost (1982-84=100)	141.6	142.3	150.4	146.4	153.8	152.9	152.5	152.9	154.1	156.5
Farm value (1982-84=100)	84.8	81.6	88.4	86.6	89.8	89.9	90.7	90.7	91.8	92.0
Farm-retail spread (1982-84=100)	200.0	204.7	214.0	207.8	219.4	217.5	215.9	216.7	218.0	222.6
Farm value-retail cost (%)	30.3	29	29.8	30.0	29.6	29.8	30.1	30.1	30.2	29.8
Dairy products										
Retail cost (1982-84=100)	150.8	159.6	160.7	160.9	161.6	161.9	161.4	161.5	163.6	163.6
Farm value (1982-84=100)	113.0	107.9	98.8	93.8	102.9	101.2	102.1	106.1	106.9	105.4
Farm-retail spread (1982-84=100)	185.6	207.2	217.7	222.8	215.8	217.9	216.1	212.6	215.9	217.2
Farm value-retail cost (%)	36.0	32.4	29.5	28.0	30.5	30.0	30.3	31.5	31.3	30.9
Poultry										
Retail cost (1982-84=100)	157.1	157.9	159.8	157.9	160.9	162.1	157.2	160.7	160.8	161.8
Farm value (1982-84=100)	126.1	119	117.4	108.1	127.2	111.6	125.7	114.5	109.9	117.9
Farm-retail spread (1982-84=100)	192.9	202.7	208.7	215.3	199.7	220.2	193.4	213.9	219.4	212.4
Farm value-retail cost (%)	42.9	40.3	39.3	36.6	42.3	36.9	42.8	38.1	36.6	39.0
Eggs										
Retail cost (1982-84=100)	137.1	128.1	131.9	131.7	132.0	136.1	140.4	145.5	150.4	142.9
Farm value (1982-84=100)	89.6	74.9	80.6	89.9	71.8	88.9	100.4	119.3	86.5	87.5
Farm-retail spread (1982-84=100)	222.5	223.7	223.9	206.8	240.1	220.9	212.3	192.6	265.3	242.4
Farm value-retail cost (%)	42.0	37.6	39.3	43.9	35.0	42.0	45.9	52.7	36.9	39.3
Cereal and bakery products										
Retail cost (1982-84=100)	181.1	185.0	188.3	186.0	188.6	190.1	189.0	190.7	191.1	191.9
Farm value (1982-84=100)	94.4	82.5	75.2	75.3	72.3	76.5	79.6	77.4	77.9	79.2
Farm-retail spread (1982-84=100)	193.2	199.2	204.0	201.5	204.8	205.9	204.3	206.5	206.9	207.6
Farm value-retail cost (%)	6.4	5.5	4.9	5.0	4.7	4.9	5.2	5.0	5.0	5.1
Fresh fruit										
Retail cost (1982-84=100)	258.2	294.3	284.3	288.4	285.1	289.7	290.4	297.4	287.7	278.4
Farm value (1982-84=100)	141.3	153.7	141.3	151.2	140.4	140.4	140.5	143.7	147.2	139.0
Farm-retail spread (1982-84=100)	312.2	359.3	350.3	351.8	351.9	358.6	359.6	368.4	352.6	342.8
Farm value-retail cost (%)	17.3	16.5	15.7	16.6	15.6	14.9	15.3	15.3	16.2	15.8
Fresh vegetables										
Retail cost (1982-84=100)	215.8	209.3	219.4	211.0	218.9	218.6	224.6	240.2	235.9	240.6
Farm value (1982-84=100)	124.5	118.1	121.4	95.8	125.2	109.2	126.9	129.2	131.3	120.6
Farm-retail spread (1982-84=100)	262.7	256.2	269.8	270.2	267.1	274.9	274.8	297.3	289.7	302.3
Farm value-retail cost (%)	19.6	19.2	18.8	15.4	19.4	17.0	19.2	18.3	18.9	17.0
Processed fruits and vegetables										
Retail cost (1982-84=100)	150.6	154.8	153.6	152.6	154.2	155.7	152.6	153.8	158.0	157.5
Farm value (1982-84=100)	115.1	113.5	111.0	111.6	111.2	111.2	110.6	110.3	110.4	110.6
Farm-retail spread (1982-84=100)	161.7	167.7	166.9	165.4	167.6	169.7	165.7	167.4	172.9	172.1
Farm value-retail cost (%)	18.2	17.4	17.2	17.4	17.1	17.0	17.2	17.0	16.6	16.7
Fats and oils										
Retail cost (1982-84=100)	146.9	148.3	147.4	145.6	148.7	149.7	146.5	150.2	153.0	152.6
Farm value (1982-84=100)	118.9	89	80.9	80.3	78.6	76.6	76.2	73.8	72.2	70.9
Farm-retail spread (1982-84=100)	157.2	170	171.9	169.6	174.5	176.6	172.4	178.3	182.7	182.7
Farm value-retail cost (%)	21.8	16.2	14.8	14.8	14.2	13.8	14.0	13.2	12.7	12.5

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			2000				2001		
	1998	1999	2000	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Beef, all fresh retail value (cents/lb.)	253.3	260.5	275.3	270.8	280.6	279.6	280.4	292.4	296.5	298.4
Beef, Choice										
Retail value (cents/lb.) ²	277.1	287.8	306.4	297.9	311.8	310.3	310.1	321.4	334.2	334.3
Wholesale value (cents/lb.) ³	153.8	171.6	182.3	183.3	174.4	182.8	197.6	202.5	201.5	202.7
Net farm value (cents/lb.) ⁴	130.8	141.1	149.0	154.2	143.6	152.4	163.5	167.7	171.0	170.0
Farm-retail spread (cents/lb.)	146.3	146.7	157.4	143.7	168.2	157.9	146.6	153.7	163.2	164.3
Wholesale-retail (cents/lb.) ⁵	123.3	116.2	124.1	114.6	137.4	127.5	112.5	118.9	132.7	131.6
Farm-wholesale (cents/lb.) ⁶	23.0	30.5	33.3	29.1	30.8	30.4	34.1	34.8	30.5	32.7
Farm value-retail value (%)	47.2	49.0	48.6	51.8	46.1	49.1	52.7	52.2	51.2	50.9
Pork										
Retail value (cents/lb.) ²	242.7	241.5	258.2	252.8	262.1	259.3	262.5	260.6	261.5	265.4
Wholesale value (cents/lb.) ³	97.3	99.0	114.5	112.6	114.3	108.1	111.1	107.9	107.7	117.3
Net farm value (cents/lb.) ⁴	61.2	60.4	79.4	77.4	76.3	67.0	73.5	68.6	73.7	86.0
Farm-retail spread (cents/lb.)	181.5	181.1	178.8	175.4	185.8	192.3	189.0	192.0	187.8	179.4
Wholesale-retail (cents/lb.) ⁵	145.4	142.5	143.7	140.2	147.8	151.2	151.4	152.7	153.8	148.1
Farm-wholesale (cents/lb.) ⁶	36.1	38.6	35.1	35.2	38.0	41.1	37.6	39.3	34.0	31.3
Farm value-retail value (%)	25.2	25.0	30.8	30.6	29.1	25.8	28.0	26.3	28.2	32.4

1. Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by the Bureau of Labor Statistics (BLS). Farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for by-product. Farm values are based on prices at first point of sale, and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail value and farm value, represents charges for assembling, processing, transporting and distributing. 2. Weighted-average value of retail cuts from pork and Choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs and by-product values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of by-products. 5. Charges for retailing and other marketing services such as wholesaling and in-city transportation. 6. Charges for livestock marketing, processing, and transportation. *Information contact: Veronica Jones (202) 694-5387, William F. Hahn (202) 694-5175*

Table 9—Price Indexes of Food Marketing Costs

	Annual			1999			2000			
	1998	1999	2000	II	III	IV	I	II	III	IV
1987=100*										
Labor—hourly earnings and benefits	490.4	503.3	514.0	503.5	504.2	506.7	508.2	512.0	514.1	521.8
Processing	499.3	511.4	525.0	512.1	513.4	515.6	518.1	523.4	526.9	531.5
Wholesaling	552.5	564.6	589.4	572.8	575.2	580.0	578.9	586.4	587.3	601.0
Retailing	454.1	465.8	469.9	464.2	463.8	465.4	467.1	467.8	465.2	477.3
Packaging and containers	395.5	399.4	412.0	396.4	403.0	407.7	410.3	410.6	413.5	413.7
Paperboard boxes and containers	365.2	373.0	407.7	368.3	380.2	387.8	391.9	413.0	412.4	413.5
Metal cans	487.9	486.6	452.5	486.6	486.6	486.6	489.5	440.1	440.1	440.1
Paper bags and related products	432.9	440.9	470.4	435.7	446.3	455.8	457.3	472.4	477.6	474.5
Plastic films and bottles	322.8	324.2	336.7	321.4	325.9	329.6	329.4	330.6	342.4	344.3
Glass containers	446.8	447.1	450.8	447.8	447.0	445.8	450.1	451.1	451.1	450.8
Metal foil	232.0	227.3	232.4	226.1	226.7	228.0	229.8	231.3	233.8	234.8
Transportation services	428.3	394.0	394.3	394.2	394.2	394.2	392.3	393.3	394.6	396.9
Advertising	624.5	623.7	635.7	622.9	623.9	625.6	633.6	635.0	635.7	638.6
Fuel and power	619.7	651.5	841.1	627.3	681.1	711.9	816.5	822.2	866.1	859.6
Electric	492.1	489.4	498.2	484.0	505.9	488.5	477.2	487.0	523.8	504.9
Petroleum	457.0	565.9	1,135.8	504.0	613.2	758.1	1,114.0	1,102.2	1,160.6	1,166.4
Natural gas	1,239.4	1,235.6	1,275.4	1,222.8	1,272.7	1,240.4	1,235.3	1,259.8	1,300.7	1,305.7
Communications, water and sewage	307.6	309.3	309.1	308.5	308.9	310.6	310.3	307.8	308.7	309.5
Rent	260.5	256.9	258.2	257.3	256.4	256.4	256.8	258.0	259.1	259.0
Maintenance and repair	529.3	541.6	561.2	540.7	542.5	545.3	552.2	558.3	564.7	569.7
Business services	522.9	531.9	544.6	530.2	533.3	536.1	540.3	543.2	545.9	548.8
Supplies	332.3	327.7	348.5	325.9	327.1	331.7	365.6	338.2	344.5	345.8
Property taxes and insurance	598.3	619.7	654.6	615.2	622.8	631.3	639.8	647.4	658.6	672.6
Interest, short-term	103.7	103.7	115.4	96.7	109.7	115.2	111.3	116.6	117.7	116.0
Total marketing cost index	467.2	472.2	491.5	470.7	475.2	479.1	486.7	488.8	493.1	497.2

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

Livestock & Products

Table 10—U.S. Meat Supply & Use

	Beg. stocks	Production ¹	Imports	Total supply	Exports	Ending stocks	Consumption		Conversion factor ³	Primary market price ⁴
							Total	Per capita ²		
	Million lbs. ⁵						Lbs.			\$/cwt
Beef										
1997	377	25,490	2,344	28,211	2,136	465	25,611	67	0.700	66.32
1998	465	25,760	2,643	28,868	2,171	393	26,305	68	0.700	61.48
1999	393	26,493	2,874	29,760	2,417	411	26,932	69	0.700	65.56
2000	411	26,888	3,032	30,331	2,516	525	27,290	69	0.700	69.65
2001	525	25,696	3,050	29,271	2,570	390	26,311	66	0.700	75.53
Pork										
1997	366	17,274	634	18,274	1,044	408	16,823	49	0.776	54.30
1998	408	19,011	705	20,124	1,230	584	18,309	53	0.776	34.72
1999	584	19,308	827	20,720	1,278	489	18,952	54	0.776	34.00
2000	489	18,952	967	20,408	1,305	477	18,626	52	0.776	44.70
2001	477	19,120	990	20,587	1,350	525	18,712	53	0.776	43.21
Veal ⁶										
1997	7	334	0	341	0	8	333	1	0.83	82
1998	8	262	0	270	0	5	265	1	0.83	82
1999	5	235	0	240	0	5	235	1	0.83	90
2000	5	225	0	230	0	5	225	1	0.83	106
2001	5	208	0	213	0	5	208	1	0.83	107
Lamb and mutton										
1997	9	260	83	352	6	14	332	1	0.89	88
1998	14	251	112	377	6	12	360	1	0.89	74
1999	12	248	113	372	5	9	358	1	0.89	76
2000	9	234	129	372	6	13	353	1	0.89	79
2001	13	219	136	368	4	10	354	1	0.89	81
Total red meat										
1997	759	43,358	3,061	47,178	3,185	894	43,099	118	--	--
1998	894	45,284	3,461	49,639	3,407	994	45,239	123	--	--
1999	994	46,284	3,813	51,092	3,700	914	46,477	125	--	--
2000	914	46,299	4,128	51,341	3,827	1,020	46,494	124	--	--
2001	1,020	45,243	4,176	50,439	3,924	930	45,585	120	--	--
Broilers										c/lb
1997	641	27,041	5	27,687	4,664	607	22,416	72	0.859	59
1998	607	27,612	5	28,225	4,673	711	22,841	73	0.859	63
1999	711	29,468	4	30,183	4,920	796	24,468	77	0.859	58
2000	796	30,209	6	31,011	5,548	798	24,665	77	0.859	56
2001	798	30,483	4	31,285	5,700	750	24,835	77	0.859	58
Mature chickens										
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	525	0	533	426	6	101	1	1.0	--
1999	6	554	0	562	393	8	162	1	1.0	--
2000	8	531	0	541	223	9	308	1	1.0	--
2001	9	524	0	535	140	10	385	1	1.0	--
Turkeys										
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	5,230	1	5,535	379	254	4,902	18	1.0	69
2000	254	5,333	1	5,589	458	241	4,890	18	1.0	71
2001	241	5,528	1	5,770	460	275	5,034	18	1.0	68
Total poultry										
1997	975	32,964	6	33,944	5,654	1,029	27,261	90	--	--
1998	1,029	33,352	6	34,387	5,545	1,022	27,821	91	--	--
1999	1,022	35,252	7	36,281	5,692	1,058	29,531	96	--	--
2000	1,058	36,073	9	37,140	6,229	1,048	29,863	96	--	--
2001	1,048	36,535	7	37,590	6,300	1,035	30,253	96	--	--
Red meat and poultry										
1997	1,734	76,321	3,067	81,123	8,839	1,923	70,360	208	--	--
1998	1,923	78,637	3,467	84,027	8,951	2,016	73,060	214	--	--
1999	2,016	81,537	3,820	87,372	9,392	1,972	76,008	220	--	--
2000	1,972	82,372	4,137	88,481	10,056	2,068	76,357	219	--	--
2001	2,068	81,778	4,183	88,029	10,224	1,965	75,838	217	--	--

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

Table 11—U.S. Egg Supply & Use

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption		Primary market price*
								Total	Per capita	
Million doz.								No.	¢/doz.	
1994	10.7	6,177.6	3.7	6,192.0	187.6	805.4	14.9	5,184.1	238.7	67.3
1995	14.9	6,215.6	4.1	6,234.6	208.9	847.2	11.2	5,167.3	235.6	72.9
1996	11.2	6,350.7	5.4	6,367.3	253.1	863.8	8.5	5,241.8	236.8	88.2
1997	8.5	6,473.1	6.9	6,488.5	227.8	894.7	7.4	5,358.6	240.1	81.2
1998	7.4	6,657.9	5.8	6,671.2	218.8	921.8	8.4	5,522.2	244.9	75.8
1999	8.4	6,912.0	7.4	6,927.8	161.7	941.7	7.6	5,816.7	255.7	65.6
2000	7.6	7,034.6	8.4	7,050.6	171.8	940.2	11.4	5,927.2	258.2	68.9
2001	11.4	7,075.0	5.0	7,091.4	170.0	945.0	10.0	5,966.4	257.8	76.0

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	Farm use	Commercial		Imports	Total commercial supply	Commercial			CCC net removals		
			Farm market-ings	Beg. stocks			CCC net re-movals	Ending stocks	Disap-pear-ance	All milk price ¹	Skim solids basis	Total solids basis ²
	Million lbs. (milkfat basis)									\$/cwt	Billion lbs.	
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	4.6	165.5	0.4	5.3	159.9	15.42	4.0	2.6
1999	162.7	1.4	161.3	5.3	4.7	171.4	0.3	6.1	164.9	14.36	6.5	4.0
2000	167.7	1.3	166.3	6.1	4.4	176.9	0.8	6.9	169.2	12.34	8.6	5.5
2001	167.1	1.3	165.8	6.9	4.7	177.3	0.2	6.4	170.8	14.10	5.4	3.3

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			2000					2001	
	1998	1999	2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Broilers										
Federally inspected slaughter certified (mil. lb.)	27,862.7	29,741.4	30,495.2	2,487.9	2,421.8	2,632.5	2,553.3	2,357.7	2,612.3	2,300.2
Wholesale price, 12-city (cents/lb.)	63.0	58.1	56.2	53.8	58.4	57.2	58.2	57.2	56.9	57.5
Price of grower feed (\$/ton) ¹	129.0	102.9	104.9	108.1	97.5	98.5	102.7	107.7	106.3	102.8
Broiler-feed price ratio ²	6.3	7.2	6.9	6.2	8.0	6.7	7.4	6.5	6.4	7.2
Stocks beginning of period (mil. lb.)	606.8	711.1	795.6	814.7	803.0	810.3	753.9	750.1	797.6	773.2
Broiler-type chicks hatched (mil.)	8,491.9	8,715.7	8,782.2	701.0	704.9	711.0	674.2	738.8	733.9	670.5
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,280.6	5,296.5	5,402.2	414.9	427.8	499.6	482.3	403.4	458.2	407.8
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	62.2	69.0	70.5	61.8	76.5	78.7	79.6	70.3	61.5	61.2
Price of turkey grower feed (\$/ton) ¹	115.9	95.0	96.0	99.2	89.0	91.8	95.9	100.0	100.3	96.8
Turkey-feed price ratio ²	6.7	8.6	8.6	7.2	10.0	10.0	9.8	8.1	7.3	7.5
Stocks beginning of period (mil. lb.)	415.1	304.3	254.3	319.4	524.9	528.1	473.9	261.1	241.3	289.1
Poultz placed in U.S. (mil.)	297.8	296.1	298.2	24.2	23.0	23.7	23.4	23.3	25.6	23.7
Eggs										
Farm production (mil.)	79,927.0	82,943.0	84,412.0	6,648.0	6,854.0	7,130.0	7,027.0	7,279.0	7,217.0	6,519.0
Average number of layers (mil.)	313.0	322.9	328.2	329.8	326.2	328.2	330.7	332.0	333.3	335.5
Rate of lay (eggs per layer on farms)	255.3	256.8	257.2	20.2	21.0	21.7	21.3	21.9	21.6	19.4
Cartoned price, New York, grade A large (cents/doz.) ³	75.8	65.6	68.9	67.0	67.1	73.0	81.4	94.9	76.2	71.5
Price of laying feed (\$/ton) ¹	137.7	125.4	125.8	121.4	117.1	110.5	111.3	111.1	123.3	119.6
Egg-feed price ratio ²	9.8	9.8	10.6	11.3	10.3	12.4	13.3	15.0	10.9	11.4
Stocks, first of month										
Frozen (mil. doz.)	7.4	8.4	7.6	13.4	11.3	11.0	12.6	11.7	11.4	12.9
Replacement chicks hatched (mil.)	438.3	450.9	429.8	35.5	36.3	35.2	32.6	35.0	38.0	38.2

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

Table 14—Dairy

	Annual			2000					2001	
	1998	1999	2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Class III (BFP before 2000) 3.5% fat (\$/cwt.)	14.20	12.43	9.74	9.54	10.76	10.02	8.57	9.37	9.99	10.27
Wholesale prices										
Butter, Central States (cents/lb.) ¹	177.6	125.2	118.5	92.9	119.1	116.9	151.7	150.0	122.2	138.1
Am. cheese, Wis. assembly pt. (cents/lb.)	158.1	142.3	116.2	111.6	133.4	109.4	107.5	113.0	110.2	120.0
Nonfat dry milk (cents/lb.) ²	106.9	103.5	101.6	100.2	102.4	102.3	103.1	104.3	103.6	103.2
USDA net removals										
Total (mil. lb.) ³	365.6	343.5	841.4	99.3	37.8	33.8	83.7	49.0	30.6	22.6
Butter (mil. lb.)	6.3	3.7	8.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Am. cheese (mil. lb.)	8.2	4.6	28.0	0.7	0.9	1.2	6.7	4.2	1.6	1.2
Nonfat dry milk (mil. lb.)	326.4	540.6	692.6	63.5	40.1	50.4	45.5	44.8	70.6	50.9
Milk										
Milk prod. 20 states (mil. lb.)	134,900	140,062	144,528	11,694	11,451	11,813	11,385	11,855	12,062	11,112
Milk per cow (lb.)	17,502	18,109	18,532	1,506	1,464	1,511	1,459	1,519	1,550	1,431
Number of milk cows (1,000)	7,708	7,734	7,799	7,767	7,820	7,817	7,805	7,803	7,783	7,767
U.S. milk production (mil. lb.) ⁴	157,348	162,716	167,658	13,606	13,241	13,714	13,212	13,752	14,016	12,908
Stocks, beginning ³										
Total (mil. lb.)	4,907	5,301	6,179	8,336	9,912	9,037	7,966	6,964	7,002	7,915
Commercial (mil. lb.)	4,889	5,274	6,135	8,289	9,778	8,904	7,836	6,830	6,863	7,735
Government (mil. lb.)	18	28	44	47	134	133	130	134	139	181
Imports, total (mil. lb.) ³	4,588	4,772	4,445	316	300	359	383	352	433	--
Commercial disappearance (mil. lb.) ³	159,779	164,915	169,205	12,891	14,268	14,994	14,408	13,910	13,456	--
Butter										
Production (mil. lb.)	1,168.0	1,275.0	1,304.8	130.3	91.6	106.2	105.1	115.9	129.4	115.2
Stocks, beginning (mil. lb.)	20.5	25.9	24.9	82.2	100.9	84.6	58.0	27.1	24.0	63.3
Commercial disappearance (mil. lb.)	1,222.5	1,308.6	1,329.8	104.4	109.2	134.9	137.3	119.7	90.7	--
American cheese										
Production (mil. lb.)	3,314.7	3,576.5	3,678.3	302.3	287.6	295.4	283.8	299.4	301.1	277.5
Stocks, beginning (mil. lb.)	410.3	407.6	458.0	511.6	609.3	576.5	546.0	521.8	521.1	508.1
Commercial disappearance (mil. lb.)	3,338.6	3,586.1	3,632.5	279.1	321.1	325.4	303.6	299.1	321.1	--
Other cheese										
Production (mil. lb.)	4,177.5	4,367.5	4,585.4	343.2	367.5	396.2	388.1	390.6	385.5	359.1
Stocks, beginning (mil. lb.)	70.0	109.5	163.3	216.4	230.2	203.9	185.3	173.4	185.2	202.9
Commercial disappearance (mil. lb.)	4,452.0	4,678.1	4,928.1	362.5	424.2	452.4	440.2	414.4	385.4	--
Nonfat dry milk										
Production (mil. lb.)	1,135.4	1,378.2	1,460.4	133.1	96.3	100.6	98.9	119.0	116.7	114.2
Stocks, beginning (mil. lb.)	103.3	56.9	115.5	146.2	152.1	130.0	120.8	109.9	119.0	145.5
Commercial disappearance (mil. lb.)	866.9	791.1	771.1	43.1	78.8	59.6	65.0	65.1	19.6	--
Frozen dessert										
Production (mil. gal.) ⁵	1,324.3	1,311.8	1,304.6	98.6	103.3	103.0	87.1	79.6	90.7	97.4
	Annual			1999		2000			2001	
	1998	1999	2000	III	IV	I	II	III	IV	I
Milk production (mil. lb.)	157,348	162,716	167,658	39,766	40,440	42,630	43,189	41,161	40,678	41,326
Milk per cow (lb.)	17,189	17,772	18,204	4,336	4,410	4,640	4,688	4,460	4,416	4,514
No. of milk cows (1,000)	9,154	9,156	9,210	9,171	9,171	9,188	9,213	9,229	9,211	9,155
Milk-feed price ratio	1.97	2.03	1.75	2.12	1.99	1.68	1.67	1.84	1.81	--
Returns over concentrate costs (\$/cwt milk)	12.15	11.40	9.40	11.90	10.95	8.95	9.05	9.85	9.80	--

-- = Not available. Quarterly values for latest year are preliminary. 1. Grade AA Chicago before June 1998. 2. Prices paid f.o.b. Central States production area. 3. Milk equivalent, fat basis. 4. Monthly data ERS estimates. 5. Hard ice cream, ice milk, and hard sherbet. *Information contact: LaVerne Williams (202) 694-5190*

Table 15—Wool

	Annual			1999		2000			2001	
	1998	1999	2000	III	IV	I	II	III	IV	I
U.S. wool price (¢/lb.) ¹	162	110	107	110	98	97	120	117	96	101
Imported wool price (¢/lb.)	164	136	137	133	125	133	139	139	136	151
U.S. mill consumption, scoured										
Apparel wool (1,000 lb.)	98,373	65,468	60,294	15,793	13,633	17,142	15,655	14,132	13,365	--
Carpet wool (1,000 lb.)	16,331	15,017	14,514	3,183	2,966	3,784	3,327	3,650	3,753	--

-- = Not available. 1. Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up. 2. Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10 cents. *Information contact: Mae Dean Johnson (202) 694-5299*

Table 16—Meat Animals

	Annual			2000				2001		
	1998	1999	2000	Mar	Oct	Nov	Dec	Jan	Feb	Mar
Cattle on feed (7 states, 1000+ head capacity)										
Number on feed (1,000 head) ¹	9,455	9,021	9,752	9,695	9,502	10,192	10,213	10,176	10,222	10,012
Placed on feed (1,000 head)	19,697	21,446	21,875	1,736	2,387	1,678	1,440	1,965	1,331	1,540
Marketings (1,000 head)	19,440	20,124	20,644	1,764	1,647	1,568	1,500	1,751	1,477	1,613
Other disappearance (1,000 head)	691	676	907	74	50	89	77	68	64	80
Market prices (\$/cwt)										
Slaughter cattle										
Choice steers, 1,100-1,300 lb.										
Texas	61.75	65.89	69.86	71.74	68.51	72.19	76.41	78.79	79.40	79.44
Neb. direct	61.47	65.56	69.65	71.74	67.93	72.16	77.01	78.46	79.71	79.80
Boning utility cows, Sioux Falls	36.20	38.40	41.71	41.58	38.25	39.38	42.19	41.75	43.34	46.10
Feeder steers										
Medium no. 1, Oklahoma City										
600-650 lb.	78.13	82.64	94.36	98.32	89.45	93.73	95.29	92.96	97.67	99.14
750-800 lb.	71.79	76.39	88.58	83.75	85.96	89.80	90.53	87.23	86.05	87.19
Slaughter hogs										
Barrows and gilts, 51-52 percent lean										
National Base converted to live equal.	34.72	34.00	34.02	43.52	43.09	37.84	41.40	38.61	41.47	48.41
Sows, Iowa, S.MN 1-2 300-400 lb.	20.29	19.26	29.79	28.86	31.45	26.90	29.59	27.89	29.48	34.37
Slaughter sheep and lambs										
Lambs, Choice, San Angelo	74.20	75.96	79.40	78.17	77.50	76.70	75.33	81.25	87.00	82.63
Ewes, Good, San Angelo	40.86	42.45	46.23	49.92	43.18	45.85	47.17	51.88	56.75	56.94
Feeder lambs										
Choice, San Angelo	79.86	80.74	95.86	99.54	92.00	103.65	102.17	109.63	117.00	115.44
Wholesale meat prices, Midwest										
Boxed beef cut-out value										
Choice, 700-800 lb.	98.60	110.90	117.45	118.25	112.66	119.09	129.60	128.00	129.53	130.92
Select, 700-800 lb.	92.19	101.99	101.99	112.56	102.02	110.29	120.50	121.70	125.01	127.44
Canner and cutter cow beef	61.49	66.51	72.57	72.77	70.08	72.11	73.55	--	--	--
Pork cutout	53.08	53.45	64.07	63.62	62.40	56.75	60.15	58.62	61.47	70.98
Pork loins, bone-in, 1/4 " trim, 14-19 lb.	101.63	100.38	117.13	110.06	119.90	104.19	114.68	110.80	114.32	128.53
Pork bellies, 12-14 lb.	52.38	57.12	77.46	85.00	57.83	54.97	58.36	66.61	66.68	78.04
Hams, bone-in, trimmed, 20-27 lb.	45.85	45.18	52.02	46.44	55.94	51.02	47.98	43.86	54.38	59.94
All fresh beef retail price	253.28	260.50	275.30	270.80	280.60	279.60	280.40	292.40	296.50	298.40
Commercial slaughter (1,000 head) ²										
Cattle	35,465	36,150	36,247	3,132	3,142	2,931	2,719	3,002	2,580	2,918
Steers	17,428	17,932	18,060	1,526	1,479	1,393	1,305	1,423	1,210	1,417
Heifers	11,448	11,868	12,041	1,078	1,100	972	896	979	870	953
Cows	5,983	5,710	5,522	472	508	516	475	549	454	494
Bull and stags	606	639	624	56	54	50	43	51	46	54
Calves	1,458	1,282	1,132	103	97	92	92	91	79	84
Sheep and lambs	3,804	3,701	3,455	347	279	296	301	269	245	326
Hogs	101,029	101,544	97,955	8,822	8,881	8,757	8,094	8,643	7,604	8,327
Barrows and gilts	97,025	97,732	94,585	8,528	8,579	8,458	7,829	8,339	7,352	8,026
Commercial production (mil. lb.)										
Beef	25,653	26,386	26,776	2,300	2,345	2,169	1,998	2,205	1,883	2,116
Veal	252	226	216	24	18	18	18	18	16	16
Lamb and mutton	248	244	230	20	18	20	21	19	17	23
Pork	18,981	19,278	18,905	1,704	1,715	1,712	1,583	1,693	1,486	1,626
	Annual			1999				2000		
	1998	1999	2000	IV	I	II	III	IV	I	II
Hogs and pigs (U.S.) ³										
Inventory (1,000 head) ¹	61,158	62,206	59,342	60,776	59,342	57,782	59,137	59,545	59,338	58,754
Breeding (1,000 head) ¹	6,957	6,682	6,234	6,301	6,234	6,190	6,234	6,246	6,270	6,244
Market (1,000 head) ¹	54,200	55,523	53,109	54,474	53,109	51,593	52,904	53,300	53,068	52,510
Farrowings (1,000 head)	12,061	11,641	11,462	2,844	2,798	2,885	2,899	2,848	2,836	2,907
Pig crop (1,000 head)	105,004	102,354	101,354	24,973	24,522	25,565	25,548	25,208	24,896	--
Cattle on Feed, 7 states (1,000 head) ⁴										
Steers and steer calves	5,803	5,432	5,432	5,286	5,768	5,746	5,326	5,584	5,936	5,885
Heifers and heifer calves	3,615	3,552	3,552	3,479	3,942	3,810	3,602	3,877	4,081	3,913
Cows and bulls	59	37	37	28	42	37	31	41	59	61

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

Crops & Products

Table 17—Supply & Utilization^{1,2}

	Area			Yield	Production	Total supply ⁴	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price ⁵
	Set-aside ³	Planted	Harvested									
	Mil. acres		Bu./acre	Mil. bu.							\$/bu.	
Wheat												
1996/97	--	75.1	62.8	36.3	2,277	2,746	308	993	1,002	2,302	444	4.30
1997/98	--	70.4	62.8	39.5	2,481	3,020	251	1,007	1,040	2,298	722	3.38
1998/99	--	65.8	59.0	43.2	2,547	3,373	394	990	1,042	2,427	946	2.65
1999/00*	--	62.7	53.8	42.7	2,299	3,339	284	1,016	1,090	2,390	950	2.48
2000/01*	--	62.5	53.0	41.9	2,223	3,263	300	1,034	1,100	2,434	829	2.60-2.70
	Mil. acres		Lb./acre	Mil. cwt (rough equiv)							\$/cwt	
Rice ⁶												
1996/97	--	2.8	2.8	6,120.0	171.6	207.2	--	6/ 101.6	78.3	179.9	27.2	9.96
1997/98	--	3.1	3.1	5,897.0	183.0	219.5	--	6/ 103.9	87.7	191.6	27.9	9.70
1998/99	--	3.3	3.3	5,663.0	184.4	223.0	--	6/ 114.0	86.8	200.9	22.1	8.89
1999/00*	--	3.5	3.5	5,866.0	206.0	238.2	--	6/ 121.9	88.9	210.7	27.5	5.93
2000/01*	--	3.1	3.0	6,281.0	190.9	228.6	--	6/ 121.3	83.0	204.3	24.3	5.65-5.75
	Mil. acres		Bu./acre	Mil. bu.							\$/bu.	
Corn												
1996/97	--	79.2	72.6	127.1	9,233	9,672	5,277	1,714	1,797	8,789	883	2.71
1997/98	--	79.5	72.7	126.7	9,207	10,099	5,482	1,805	1,504	8,791	1,308	2.43
1998/99	--	80.2	72.6	134.4	9,759	11,085	5,471	1,846	1,981	9,298	1,787	1.94
1999/00*	--	77.4	70.5	133.8	9,431	11,232	5,664	1,913	1,937	9,515	1,718	1.82
2000/01*	--	79.5	72.7	137.1	9,968	11,696	5,825	1,970	1,950	9,745	1,951	1.80-1.90
	Mil. acres		Bu./acre	Mil. bu.							\$/bu.	
Sorghum												
1996/97	--	13.1	11.8	67.3	795	814	516	45	205	766	47	2.34
1997/98	--	10.1	9.2	69.2	634	681	365	55	212	632	49	2.21
1998/99	--	9.6	7.7	67.3	520	569	262	45	197	504	65	1.66
1999/00*	--	9.3	8.5	69.7	595	660	284	55	256	595	65	1.57
2000/01*	--	9.2	7.7	60.9	470	535	230	35	215	480	55	1.75-1.85
	Mil. acres		Bu./acre	Mil. bu.							\$/bu.	
Barley												
1996/97	--	7.1	6.7	58.5	392	529	217	172	31	419	109	2.74
1997/98	--	6.7	6.2	58.1	360	510	144	172	74	390	119	2.38
1998/99	--	6.3	5.9	60.0	352	501	161	170	28	360	142	1.98
1999/00*	--	5.2	4.7	59.2	280	450	136	172	30	338	111	2.13
2000/01*	--	5.8	5.2	61.1	318	457	125	172	58	355	102	2.10-2.20
	Mil. acres		Bu./acre	Mil. bu.							\$/bu.	
Oats												
1996/97	--	4.6	2.7	57.7	153	317	172	76	3	250	67	1.96
1997/98	--	5.1	2.8	59.5	167	332	185	72	2	258	74	1.60
1998/99	--	4.9	2.8	60.2	166	348	196	69	2	266	81	1.10
1999/00*	--	4.7	2.5	59.6	146	326	180	68	2	250	76	1.12
2000/01*	--	4.5	2.3	64.2	149	335	185	68	2	255	80	1.05-1.15
	Mil. acres		Bu./acre	Mil. bu.							\$/bu.	
Soybeans ⁷												
1996/97	--	64.2	63.3	37.6	2,380	2,573	123	1,436	882	2,441	132	7.35
1997/98	--	70.0	69.1	38.9	2,689	2,826	156	1,597	873	2,626	200	6.47
1998/99	--	72.0	70.4	38.9	2,741	2,944	201	1,590	805	2,595	348	4.93
1999/00*	--	73.7	72.4	36.6	2,654	3,006	164	1,579	973	2,716	290	4.63
2000/01*	--	74.5	72.7	38.1	2,770	3,063	183	1,590	990	2,763	300	4.45-4.55
				Mil. lbs.							¢/lb.	
Soybean oil												
1996/97	--	--	--	--	15,752	17,821	--	14,263	2,037	16,300	1,520	22.50
1997/98	--	--	--	--	18,143	19,723	--	15,262	3,079	18,341	1,382	25.84
1998/99	--	--	--	--	18,081	19,546	--	15,655	2,372	18,027	1,520	19.90
1999/00*	--	--	--	--	17,824	19,427	--	16,055	1,376	17,432	1,995	15.60
2000/01*	--	--	--	--	17,800	19,870	--	16,350	1,400	17,750	2,120	13.25-14.75
				1,000 tons							\$/ton ⁸	
Soybean meal												
1996/97	--	--	--	--	34,210	34,524	--	27,320	6,994	34,314	210	270.9
1997/98	--	--	--	--	38,176	38,443	--	28,895	9,329	38,225	218	185.5
1998/99	--	--	--	--	37,792	38,109	--	30,657	7,122	37,779	330	138.5
1999/00*	--	--	--	--	37,623	38,003	--	30,378	7,331	37,710	293	167.7
2000/01*	--	--	--	--	38,032	38,375	--	31,350	6,750	38,100	275	165-175

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				Mil. bales				¢/lb.
Cotton ⁹												
1996/97	1.7	14.7	12.9	705	18.9	22.0	--	11.1	6.9	18.0	4.0	69.3
1997/98	0.3	13.9	13.4	673	18.8	22.8	--	11.3	7.5	18.8	3.9	65.2
1998/99	--	13.4	10.7	625	13.9	18.2	--	10.4	4.3	14.7	3.9	60.2
1999/00*	--	14.9	13.4	607	17.0	21.0	--	10.2	6.7	17.0	3.9	45.0
2000/01*	--	15.5	13.1	631	17.2	21.2	--	9.3	6.9	16.2	5.0	55.1

-- = Not available or not applicable. *April 10, 2001 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. Average for August 2000-February 2001. USDA is prohibited by law from publishing cotton price projections. Information contact: Mae Dean Johnson (202) 694-5299

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

	Marketing year ¹			2000					2001	
	1997/98	1998/99	1999/2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Wheat, no. 1 HRW, Kansas City (\$/bu.) ²	3.71	3.08	2.87	2.94	3.13	3.41	3.45	3.47	3.54	3.35
Wheat, DNS, Minneapolis (\$/bu.) ³	4.31	3.83	3.65	3.59	3.17	3.69	3.77	3.52	3.79	3.68
Rice, S.W. La. (\$/cwt) ⁴	18.92	16.79	12.99	12.69	11.88	12.45	12.69	12.75	12.75	12.75
Corn, no. 2 yellow, 30-day, Chicago (\$/bu.)	2.56	2.06	1.97	2.12	1.67	1.91	2.06	2.06	2.03	1.99
Sorghum, no. 2 yellow, Kansas City (\$/cwt)	4.11	3.29	3.10	3.43	2.67	3.14	3.41	3.66	3.64	3.63
Barley, feed, Duluth (\$/bu.)	1.90	--	--	--	--	1.30	1.42	1.50	1.54	1.51
Barley, malting Minneapolis (\$/bu.)	2.50	--	--	--	--	2.24	2.39	2.45	--	2.40
U.S. cotton price, SLM, 1-1/16 in. (¢/lb.) ⁵	67.79	60.12	60.20	54.29	60.62	60.54	62.16	61.04	56.66	54.10
Northern Europe prices cotton index (¢/lb.) ⁶	72.11	58.97	52.85	53.63	61.55	60.90	64.07	65.90	64.19	60.88
U.S. M 1-3/32 in. (¢/lb.) ⁷	77.98	74.08	59.64	60.94	67.38	66.69	68.95	69.44	69.75	68.63
Soybeans, no. 1 yellow, 15-day ⁸ Central Illinois (\$/bu)	6.51	4.85	4.76	4.96	4.67	4.51	4.66	4.92	4.63	4.49
Soybean oil, crude, Decatur (¢/lb.)	25.84	19.90	20.50	15.09	16.74	13.50	13.50	13.50	13.50	12.38
Soybean meal, 48% protein, Decatur (\$/ton)	185.54	138.50	165.45	171.62	181.13	176.73	183.83	196.47	187.99	165.35

-- = Not available. 1. Beginning June 1 for wheat and barley; Aug. 1 for rice and cotton; Sept. 1 for corn, sorghum, and soybeans; Oct. 1 for soybean meal and oil. 2. Ordinary protein. 3. 14 percent protein. 4. Long grain, milled basis. 5. Average spot market. 6. Liverpool Cotlook "A" Index; average of 5 lowest prices of 13 selected growths. 7. Cotton, Memphis territory growths. 8. Soybean 30-day price discontinued. Information contact: Mae Dean Johnson (202) 694-5299

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

	Marketing assistance loan rate	Marketing loan benefit ¹	Flexibility contract payment rate	Acres under contract	Contract payment yields	Participation rate ²
		<u>\$/bu.</u>		<u>Mil. acres</u>	<u>Bu./acre</u>	<u>Percent</u>
Wheat						
1996/97	2.58	--	0.874	76.7	34.70	99
1997/98	2.58	0.01	0.631	76.7	34.70	--
1998/99	2.58	0.19	0.663	78.9	34.50	--
1999/2000	2.58	0.41	0.637	79.0	34.50	--
2000/2001 ³	2.58	--	0.588	78.9	34.50	--
		<u>\$/cwt</u>			<u>Cwt/acre</u>	
Rice						
1996/97	6.50	--	2.766	4.2	48.27	99
1997/98	6.50	0.00	2.710	4.2	48.17	--
1998/99	6.50	0.08	2.921	4.2	48.17	--
1999/2000	6.50	1.94	2.820	4.2	48.15	--
2000/2001 ³	6.50	--	2.600	4.1	48.15	--
		<u>\$/bu.</u>			<u>Bu./acre</u>	
Corn						
1996/97	1.89	--	0.251	80.7	102.90	98
1997/98	1.89	0.01	0.486	80.9	102.80	--
1998/99	1.89	0.14	0.377	82.0	102.60	--
1999/2000	1.89	0.26	0.363	81.9	102.60	--
2000/2001 ³	1.89	--	0.334	81.9	102.60	--
		<u>\$/bu.</u>			<u>Bu./acre</u>	
Sorghum						
1996/97	1.81	--	0.323	13.1	57.30	99
1997/98	1.76	0.00	0.544	13.1	57.30	--
1998/99	1.74	0.12	0.452	13.6	56.90	--
1999/2000	1.74	0.26	0.435	13.7	56.90	--
2000/2001 ³	1.71	--	0.400	13.6	57.00	--
		<u>\$/bu.</u>			<u>Bu./acre</u>	
Barley						
1996/97	1.55	--	0.332	10.5	47.30	99
1997/98	1.57	0.01	0.277	10.5	47.20	--
1998/99	1.56	0.23	0.284	11.2	46.70	--
1999/2000	1.59	0.14	0.271	11.2	46.60	--
2000/2001 ³	1.62	--	0.251	11.2	46.60	--
		<u>\$/bu.</u>			<u>Bu./acre</u>	
Oats						
1996/97	1.03	--	0.033	6.2	50.80	97
1997/98	1.11	0.00	0.031	6.2	50.80	--
1998/99	1.11	0.18	0.031	6.5	50.70	--
1999/2000	1.13	0.19	0.030	6.5	50.60	--
2000/2001 ³	1.16	--	0.028	6.5	50.60	--
		<u>\$/bu.</u>			<u>Bu./acre</u>	
Soybeans ⁴						
1996/97	4.97	--	--	--	--	--
1997/98	5.26	0.01	--	--	--	--
1998/99	5.26	0.45	--	--	--	--
1999/2000	5.26	0.88	--	--	--	--
2000/2001 ³	5.26	--	--	--	--	--
		<u>¢/lb.</u>			<u>Lb./acre</u>	
Upland cotton						
1996/97	51.92	--	8.882	16.2	610.00	99
1997/98	51.92	0.00	7.625	16.2	608.00	--
1998/99	51.92	0.09	8.173	16.4	604.00	--
1999/2000	51.92	0.20	7.880	16.4	604.00	--
2000/2001 ³	51.92	--	7.330	16.3	604.00	--

-- = Not available. 1. Weighted average, based on portions of crop receiving marketing loan gains, loan deficiency payments, and no benefits (calculated by Economic Research Service). 2. Participation rate is the percent of eligible acres that entered production flexibility contracts. 3. Estimated payment rates and acres under contract. 4. There are no flexibility contract payments for soybeans.

Information contact: Brenda Chewning, Farm Service Agency (202) 720-8838

Table 20—Fruit

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Citrus ¹										
Production (1,000 tons)	11,285	12,452	15,274	14,561	15,799	15,712	17,271	17,770	13,633	17,403
Per capita consumpt. (lb.) ²	19.1	24.4	26.0	25.0	24.1	25.0	27.0	27.1	20.7	--
Noncitrus ³										
Production (1,000 tons)	15,740	17,124	16,554	17,339	16,348	16,103	18,363	16,560	17,331	18,217
Per capita consumpt. (lb.) ²	70.5	73.7	73.8	75.6	73.6	73.9	73.1	76.4	81.3	--
	2000						2001			
	Mar	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Grower prices										
Apples (¢/pound) ⁴	20.5	16.2	19.5	23.3	21.8	18.5	18.1	16.1	15.2	14.2
Pears (¢/pound) ⁴	16.70	11.50	12.70	16.60	18.10	16.15	15.05	17.00	12.55	13.70
Oranges (\$/box) ⁵	3.82	3.35	2.17	0.93	1.09	3.16	2.94	2.82	3.29	4.13
Grapefruit (\$/box) ⁵	3.83	6.02	4.45	6.71	5.17	3.09	2.20	1.87	2.07	1.53
Stocks, ending										
Fresh apples (mil. lb.)	2,465	412	129	3,299	6,348	5,633	5,003	4,102	3,408	2,603
Fresh pears (mil. lb.)	133	40	147	532	426	426	339	250	181	117
Frozen fruits (mil. lb.)	1,107	1,300	1,303	1,234	1,626	1,602	1,569	1,471	1,372	1,224
Frozen conc. orange juice (mil. single-strength gallons)	769	752	595	550	477	491	564	657	745	710

-- = 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

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Production ¹										
Total vegetables (1,000 cwt)	565,754	689,070	688,824	782,505	747,988	762,952	751,739	729,537	831,976	796,011
Fresh (1,000 cwt) ^{2,4}	242,733	389,597	387,330	412,880	393,398	409,317	427,183	416,746	448,037	452,228
Processed (tons) ^{3,4}	16,151,030	14,973,630	15,074,707	18,481,238	17,729,497	17,681,732	16,227,819	15,639,548	19,196,942	17,189,152
Mushrooms (1,000 lbs) ⁵	746,832	776,357	750,799	782,340	777,870	776,677	808,678	847,760	854,394	--
Potatoes (1,000 cwt)	417,622	425,367	430,349	469,425	445,099	499,254	467,091	475,771	478,216	515,964
Sweet potatoes (1,000 cwt)	11,203	12,005	11,027	13,380	12,821	13,216	13,327	12,382	12,234	13,613
Dry edible beans (1,000 cwt)	33,765	22,615	21,862	28,950	30,689	27,912	29,370	30,418	33,085	26,440
	2000						2001			
	Mar	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Shipments (1,000 cwt)										
Fresh	28,425	19,317	21,877	15,097	16,561	22,509	18,685	14,775	23,799	20,494
Iceberg lettuce	3,904	3,228	3,930	3,072	3,216	3,710	2,918	2,168	3,517	3,270
Tomatoes, all	4,553	2,497	3,095	2,473	2,684	3,643	3,417	2,602	4,892	3,495
Dry-bulb onions	3,895	3,140	4,314	3,858	3,606	4,150	2,990	2,628	3,774	2,983
Others ⁶	16,073	10,452	10,538	5,694	7,055	11,006	9,360	7,377	11,616	10,746
Potatoes, all	19,972	9,854	12,563	11,272	10,919	15,606	12,549	10,001	15,572	14,624
Sweet potatoes	311	145	187	272	325	847	405	183	327	242

-- = 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			1999			2000			2001	
	1998	1999	2000	III	IV	I	II	III	IV	I	
Sugar											
Production ¹	7,891	9,083	8,912	749	4,667	2,681	922	772	4,537	--	
Deliveries ¹	9,851	10,167	10,091	2,693	2,609	2,348	2,513	2,641	2,589	--	
Stocks, ending ¹	3,423	3,855	4,338	1,639	3,855	4,551	3,498	2,219	4,338	--	
Coffee											
Composite green price ²											
N.Y. (¢/lb.)	114.43	88.49	71.94	77.40	91.79	85.66	75.78	66.73	59.63	55.48	
	Annual			1999			2000				
	1997	1998	1999	Nov	Dec	Jan	Feb	Mar	Apr	May	
Tobacco											
Avg. price to grower ³											
Flue-cured (\$/lb.)	1.73	1.76	1.74	1.80	--	--	--	--	--	--	
Burley (\$/lb.)	1.91	1.90	1.90	1.90	1.91	1.90	1.88	1.77	--	--	
Domestic taxable removals											
Cigarettes (bil.)	471.4	457.9	432.6	37.6	34.0	28.8	32.5	38.8	29.3	40.8	
Large cigars (mil.) ⁴	3,552	3,721	3,844	334.7	320.0	250.7	285.5	333.9	314.0	345.7	

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

World Agriculture

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

	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00 E	2000/01 F
	<i>Million units</i>									
Wheat										
Area (hectares)	222.5	222.9	222.0	214.5	219.2	230.4	227.8	224.7	216.9	215.9
Production (metric tons)	542.9	562.4	558.7	524.1	538.5	581.9	609.2	588.8	587.7	580.4
Exports (metric tons) ¹	111.2	113.0	101.6	101.4	99.5	103.8	104.0	102.0	112.5	106.6
Consumption (metric tons) ²	555.5	550.3	561.6	547.5	548.8	576.9	583.9	590.3	599.1	597.2
Ending stocks (metric tons) ³	132.5	144.5	141.6	118.2	107.9	113.4	138.7	137.2	125.8	108.9
Coarse grains										
Area (hectares)	322.8	326.0	318.7	324.1	313.8	322.8	311.2	307.7	302.2	297.8
Production (metric tons)	810.7	871.8	798.9	871.2	802.8	908.5	883.9	890.0	877.0	857.6
Exports (metric tons) ¹	95.9	92.8	85.8	98.0	87.8	94.1	85.6	96.2	104.2	101.8
Consumption (metric tons) ²	810.1	843.3	838.7	858.5	839.2	873.1	873.0	867.6	881.8	879.4
Ending stocks (metric tons) ³	135.8	164.1	124.3	137.0	100.6	136.2	147.1	169.5	164.7	142.9
Rice, milled										
Area (hectares)	147.5	146.4	144.9	147.4	148.1	149.7	151.3	152.4	154.9	151.9
Production (metric tons)	354.7	355.7	355.4	364.5	371.4	380.3	386.8	394.1	408.6	399.9
Exports (metric tons) ¹	14.2	14.9	16.5	21.0	19.7	18.9	27.7	24.9	22.9	22.6
Consumption (metric tons) ²	355.8	357.5	357.9	366.5	371.5	379.7	382.9	390.1	403.3	403.5
Ending stocks (metric tons) ³	58.0	56.2	53.7	51.6	51.6	52.1	56.0	60.0	65.2	61.6
Total grains										
Area (hectares)	692.8	695.3	685.6	686.0	681.1	702.9	690.3	684.8	674.0	665.6
Production (metric tons)	1,708.3	1,789.9	1,713.0	1,759.8	1,712.7	1,870.7	1,879.9	1,872.9	1,873.3	1,837.9
Exports (metric tons) ¹	221.3	220.7	203.9	220.4	207.0	216.8	217.3	223.1	239.6	231.0
Consumption (metric tons) ²	1,721.4	1,751.1	1,758.2	1,772.5	1,759.5	1,829.7	1,839.8	1,848.0	1,884.2	1,880.1
Ending stocks (metric tons) ³	326.3	364.8	319.6	306.8	260.1	301.7	341.8	366.7	355.7	313.4
Oilseeds										
Crush (metric tons)	185.1	184.4	190.1	208.1	217.5	216.6	226.4	240.6	247.8	252.0
Production (metric tons)	224.3	227.5	229.4	261.9	258.9	261.4	286.5	294.6	302.4	306.8
Exports (metric tons)	37.6	38.2	38.7	44.1	44.3	49.6	54.0	54.7	63.9	65.0
Ending stocks (metric tons)	21.9	23.6	20.3	27.2	22.2	19.0	28.5	31.9	33.7	32.5
Meals										
Production (metric tons)	125.2	125.2	131.7	142.1	147.3	147.7	153.8	164.5	169.3	174.0
Exports (metric tons)	42.2	40.8	44.9	46.7	49.8	50.7	51.9	53.5	55.5	55.3
Oils										
Production (metric tons)	60.6	61.1	63.7	69.6	73.1	73.7	75.1	80.5	85.0	87.5
Exports (metric tons)	21.3	21.3	24.3	27.1	26.0	28.2	29.8	31.6	33.1	34.0
Cotton										
Area (hectares)	34.8	32.6	30.7	32.2	35.9	33.8	33.7	33.0	32.3	31.6
Production (bales)	95.8	82.5	77.1	86.0	93.1	89.6	91.6	84.9	87.2	87.5
Exports (bales)	28.5	25.5	26.8	28.4	27.8	26.9	26.8	23.8	27.2	26.3
Consumption (bales)	86.1	85.9	85.4	84.7	86.0	88.1	87.1	85.3	91.9	91.7
Ending stocks (bales)	37.4	34.7	26.8	29.8	36.6	40.0	43.6	44.8	41.0	37.5
	1992	1993	1994	1995	1996	1997	1998	1999	2000 E	2001 F
Beef and Pork⁴										
Production (metric tons)	111.6	111.6	116.7	122.1	116.6	122.1	127.1	130.2	132.1	134.0
Consumption (metric tons)	109.9	110.6	115.7	120.7	114.1	119.7	124.6	128.4	130.0	132.3
Exports (metric tons) ¹	6.6	6.6	7.2	7.4	7.7	8.2	8.0	9.1	8.8	8.9
Poultry⁴										
Production (metric tons)	38.0	40.5	43.2	47.5	50.4	52.7	53.5	56.5	58.0	59.6
Consumption (metric tons)	37.0	39.4	42.0	47.0	49.6	51.8	52.6	55.8	57.4	59.0
Exports (metric tons) ¹	2.4	2.8	3.6	4.5	5.1	5.6	5.7	6.1	6.3	6.5
Dairy										
Milk production (metric tons) ⁵	--	--	--	--	364.3	365.6	368.0	371.6	375.7	378.8

-- = Not available. E = Estimated, 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, selected countries. 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			2000					2001	
	1998	1999	2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Export commodities										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	3.44	3.04	3.17	2.99	3.31	3.56	3.52	3.55	3.67	3.55
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	2.59	2.30	2.24	2.42	2.05	2.16	2.26	2.43	2.41	2.35
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	2.54	2.15	2.19	2.29	2.01	2.22	2.44	2.50	2.57	2.52
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	6.37	5.02	5.26	5.36	5.19	4.94	5.06	5.42	5.22	4.96
Soybean oil, Decatur (¢/lb.)	25.78	17.51	15.01	15.09	14.24	13.51	13.37	13.12	12.54	12.38
Soybean meal, Decatur (\$/ton)	162.74	141.52	174.69	170.51	174.60	171.52	179.95	195.65	183.17	166.08
Cotton, 7-market avg. spot (¢/lb.)	67.04	52.30	57.47	54.29	60.62	60.52	62.16	61.04	56.66	54.10
Tobacco, avg. price at auction (¢/lb.)	179.77	177.82	182.73	190.56	182.97	181.01	117.45	197.00	205.05	205.97
Rice, f.o.b., mill, Houston (\$/cwt)	18.95	16.99	14.84	15.25	14.56	14.95	15.00	15.00	15.00	15.00
Inedible tallow, Chicago (¢/lb.)	17.67	12.99	9.92	10.28	9.35	10.00	11.00	11.88	12.00	12.50
Import commodities										
Coffee, N.Y. spot (\$/lb.)	1.39	1.05	0.92	1.15	0.82	0.81	0.72	0.67	0.65	0.68
Rubber, N.Y. spot (¢/lb.)	40.57	36.66	37.72	40.36	37.35	37.60	37.04	36.92	35.98	34.78
Cocoa beans, N.Y. (\$/lb.)	0.72	0.47	0.36	0.35	0.36	0.36	0.33	0.33	0.42	0.48

-- = Not available. Information contact: Mae Dean Johnson (202) 694-5299.

Table 25—Trade Balance

	Fiscal Year			2000					2001	
	1999	2000	2001 P	Feb	Sep	Oct	Nov	Dec	Jan	Feb
<i>\$ million</i>										
Exports										
Agricultural	49,148	50,911	53,000	4,220	4,085	4,987	4,764	4,613	4,373	4,536
Nonagricultural	586,606	647,384	--	51,413	56,330	59,241	56,978	55,898	52,345	53,115
Total ¹	635,754	698,295	--	55,633	60,415	64,228	61,742	60,511	56,718	57,651
Imports										
Agricultural	37,310	38,923	40,000	3,231	2,922	3,217	3,251	3,207	3,407	3,063
Nonagricultural	938,948	1,132,257	--	87,831	102,722	108,266	102,437	95,193	97,096	87,820
Total ²	976,258	1,171,180	--	91,062	105,644	111,483	105,688	98,400	100,503	90,883
Trade balance										
Agricultural	11,838	11,988	13,000	989	1,163	1,770	1,513	1,406	966	1,473
Nonagricultural	-352,342	-484,873	--	-36,418	-46,392	-49,025	-45,459	-39,295	-44,751	-34,705
Total	-340,504	-472,885	--	-35,429	-45,229	-47,255	-43,946	-37,889	-43,785	-33,232

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			2000					2001	
	1998	1999	2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
<i>1995 = 100</i>										
Total U.S. Trade	114.0	114.2	119.0	115.0	120.3	122.4	122.6	121.0	121.2	126.3
U.S. markets										
All agricultural trade	119.2	117.5	120.2	116.8	120.8	122.9	123.6	123.3	123.6	128.0
Bulk commodities	118.3	116.6	121.2	117.3	121.5	123.8	124.7	124.8	125.0	129.6
Corn	122.1	116.3	119.2	116.0	118.2	120.0	121.7	123.3	124.1	124.6
Cotton	113.6	112.4	118.3	114.3	118.5	120.9	121.8	122.1	122.2	126.7
Rice	111.5	112.5	117.8	113.7	119.1	120.8	120.6	118.9	119.3	122.5
Soybeans	121.8	119.4	127.3	122.2	129.2	131.7	132.3	131.0	129.7	137.1
Tobacco, raw	108.1	112.8	134.3	129.2	138.3	141.0	141.4	138.6	137.5	148.8
Wheat	125.6	124.6	120.2	115.2	119.2	121.8	122.6	122.4	124.0	124.3
High-value products	119.9	118.3	119.4	116.4	120.3	122.1	122.8	122.1	122.5	126.7
Processed intermediates	115.9	115.1	120.2	115.9	121.2	123.3	123.8	122.6	122.4	129.9
Soymeal	106.6	107.2	117.0	108.3	113.9	116.2	115.3	113.6	114.3	116.7
Soyoil	89.1	98.1	105.2	102.9	106.5	107.5	107.2	106.1	106.7	107.6
Produce and horticulture	118.4	117.3	122.0	118.3	124.1	126.1	126.6	124.9	125.1	130.4
Fruits	120.4	116.8	119.2	116.4	120.4	122.3	122.9	122.7	123.5	124.6
Vegetables	115.9	113.6	114.4	112.0	115.8	117.3	117.9	116.4	117.5	119.2
High-value processed	123.9	121.4	117.8	116.1	118.2	119.8	120.5	120.8	121.7	122.9
Fruit juices	122.9	120.1	123.4	120.4	125.2	127.2	128.4	127.2	127.6	129.1
Poultry	139.2	155.0	116.9	118.4	116.1	116.3	115.5	115.1	115.6	115.8
Red meats	135.4	124.0	121.7	121.5	121.9	123.5	125.8	128.4	129.9	130.5
U.S. competitors										
All agricultural trade	115.7	122.1	135.5	128.5	140.7	143.6	143.2	138.1	136.0	150.7
Bulk commodities	122.2	130.4	134.0	128.8	137.4	140.0	139.7	136.3	135.5	141.2
Corn	113.1	120.5	134.0	127.2	138.7	141.2	140.9	136.6	135.1	137.0
Cotton	128.1	130.7	133.4	128.6	137.4	139.9	138.8	134.5	133.1	166.0
Rice	118.9	120.5	131.1	124.4	135.0	139.4	139.2	135.5	135.5	161.8
Soybeans	106.4	132.1	134.6	131.8	135.3	137.1	139.3	138.6	135.5	140.8
Tobacco, raw	115.3	127.3	121.8	120.7	125.1	126.5	125.2	121.3	118.4	137.5
Wheat	115.6	118.5	129.8	123.0	134.8	138.1	137.6	132.0	131.5	135.5
High-value products	118.4	125.2	139.1	131.7	144.8	147.8	147.2	141.7	139.0	156.6
Processed intermediates	119.9	127.1	138.2	131.5	143.0	146.0	145.5	141.0	139.0	148.7
Soymeal	107.8	132.0	136.9	132.7	138.9	141.0	143.0	141.5	137.6	142.7
Soyoil	107.1	123.3	130.0	125.6	132.4	134.3	135.8	133.2	131.8	135.0
Produce and horticulture	114.2	120.0	133.3	127.1	138.2	140.8	139.8	135.2	132.7	155.9
Fruits	121.0	123.5	135.9	129.3	140.1	143.5	143.0	138.6	137.9	146.2
Vegetables	102.4	109.2	121.7	116.2	126.1	128.1	127.6	123.7	121.9	171.1
High-value processed	118.7	125.7	141.3	133.2	147.8	151.0	150.4	144.1	140.9	161.7
Fruit juices	116.6	122.1	137.0	129.3	142.1	145.4	144.3	139.2	137.1	163.3
Poultry	109.5	121.6	134.9	127.9	139.6	142.6	142.7	137.9	135.5	145.1
Red meats	116.3	122.3	137.8	129.9	144.4	147.7	147.4	140.8	138.7	147.2
U.S. suppliers										
All agricultural trade	111.4	113.5	120.0	115.5	122.6	124.9	124.0	121.5	121.0	132.5
High-value products	108.8	111.6	118.2	114.0	121.1	123.3	122.4	119.6	119.0	132.2
Processed intermediates	112.3	114.8	121.4	116.8	124.6	127.2	126.6	123.5	123.0	135.9
Grains and feeds	112.5	113.0	117.9	113.6	120.5	122.7	122.7	119.5	119.7	140.6
Vegetable oils	123.1	120.9	130.1	123.8	133.9	138.1	136.7	133.9	132.5	196.4
Produce and horticulture	98.4	101.1	103.7	102.2	104.4	105.4	103.6	103.4	103.2	104.2
Fruits	96.5	97.2	98.0	95.1	99.9	101.4	97.6	99.6	99.4	100.1
Vegetables	88.7	84.1	81.3	80.6	81.2	82.6	80.8	80.6	81.2	81.7
High-value processed	111.8	114.9	123.7	118.2	127.6	130.2	129.5	125.6	124.6	145.2
Cocoa and products	120.3	126.1	137.6	132.7	140.1	143.0	142.6	138.7	137.5	144.8
Coffee and products	101.6	111.6	116.4	113.2	116.5	117.5	117.2	116.2	115.6	118.3
Dairy products	117.2	122.5	137.9	129.7	145.8	148.5	147.6	139.8	137.8	180.2
Fruit juices	109.2	122.3	127.8	123.1	130.2	133.1	132.4	131.1	129.0	135.4
Meats	102.1	105.6	115.4	108.4	110.0	111.3	113.3	113.9	113.9	114.0

Real indexes adjust nominal exchange rates for relative rates of inflation among countries. A higher value means the dollar has appreciated.

The weights used for "total U.S. trade" index are based on U.S. total merchandise exports to the largest 85 trading partners. Weights are based on relative importance of major U.S. customers, competitors in world markets, and suppliers to the U.S. Indexes are subject to revision for up to 1 year due to delayed reporting by some countries. High-value products are total agricultural products minus bulk commodities.

Source: Nominal exchange rates are obtained from the IMF International Financial Statistics. Exchange rates for the EU-11 are obtained from the Board of Governors of the Federal Reserve System. Full historical series are available back to January 1970 at

<http://usda.mannlib.cornell.edu/data-sets/international/88021/>

1. A major revision to the weighting scheme and commodity definitions was completed in May 2000. This significantly altered the series from previous versions.

Information contact: Mathew Shane (202) 694-5282 or email: mshane@ers.usda.gov.

Table 27—U.S. Agricultural Exports & Imports

	Fiscal Year			Feb		Fiscal Year			Feb	
	1999	2000	2001 F	2000	2001	1999	2000	2001 F	2000	2001
	1,000 units					\$ million				
Exports										
Animals, live	--	--	--	--	--	476	608	--	37	31
Meats and preps., excl. poultry (mt) ¹	2,089	2,457	1,800	199	191	4,500	5,454	5,000	449	410
Dairy products	--	--	--	--	--	914	996	1,000	79	78
Poultry meats (mt)	2,402	2,845	2,900	255	244	1,750	1,961	2,000	162	157
Fats, oils, and greases (mt)	1,387	1,206	1,200	94	81	544	421	--	34	26
Hides and skins, incl. furskins	--	--	--	--	--	1,108	1,479	1,500	116	154
Cattle hides, whole (no.)	17,845	21,837	--	1,667	1,720	844	1,166	--	88	109
Mink pelts (no.)	4,172	4,352	--	715	695	98	111	--	15	17
Grains and feeds (mt) ²	104,576	104,009	--	7,775	8,041	14,272	13,788	14,500	1,100	1,175
Wheat (mt) ³	28,806	27,779	28,700	1,712	2,312	3,648	3,378	3,800	209	304
Wheat flour (mt)	958	825	800	121	43	177	132	--	18	9
Rice (mt)	3,076	3,299	3,100	362	210	1,010	903	800	110	54
Feed grains, incl. products (mt) ⁴	58,398	57,195	58,000	4,353	4,378	5,821	5,483	5,500	445	446
Feeds and fodders (mt)	11,800	13,386	14,100	1,095	995	2,252	2,496	2,700	207	250
Other grain products (mt)	1,538	1,525	--	131	103	1,363	1,397	--	112	112
Fruits, nuts, and preps. (mt)	3,439	3,736	--	297	330	3,805	3,871	4,800	264	280
Fruit juices, incl.										
froz. (1,000 hectoliters)	12,317	11,902	--	833	759	735	716	--	51	47
Vegetables and preps.	--	--	--	--	--	4,245	4,443	3,100	336	347
Tobacco, unmanufactured (mt)	205	180	200	23	24	1,376	1,229	1,200	136	140
Cotton, excl. linters (mt) ⁵	884	1,474	1,600	160	134	1,309	1,809	2,200	181	183
Seeds (mt)	579	730	--	98	82	800	787	800	83	86
Sugar, cane or beet (mt)	158	115	--	9	6	56	40	--	3	2
Oilseeds and products (mt)	33,597	36,055	35,900	3,579	4,488	8,638	8,386	8,400	826	999
Oilseeds (mt)	--	--	--	--	--	--	--	--	--	--
Soybeans (mt)	22,974	26,038	26,100	2,805	3,464	4,748	5,070	5,000	565	655
Protein meal (mt)	6,726	6,870	--	527	701	1,101	1,259	--	95	144
Vegetable oils (mt)	2,669	2,130	--	183	197	1,846	1,346	--	118	103
Essential oils (mt)	47	53	--	4	4	507	593	--	41	50
Other	--	--	--	--	--	4,112	4,330	--	320	371
Total	--	--	--	--	--	49,148	50,911	53,000	4,220	4,536
Imports										
Animals, live	--	--	--	--	--	1,411	1,737	2,000	124	148
Meats and preps., excl. poultry (mt)	1,403	1,555	1,600	114	115	3,108	3,724	3,900	272	299
Beef and veal (mt)	943	1,027	--	72	75	2,047	2,405	--	167	191
Pork (mt)	337	402	--	33	30	721	958	--	78	78
Dairy products	--	--	--	--	--	1,572	1,635	1,700	124	115
Poultry and products	--	--	--	--	--	201	288	--	20	19
Fats, oils, and greases (mt)	85	107	--	8	8	56	71	--	5	5
Hides and skins, incl. furskins (mt)	--	--	--	--	--	146	160	--	17	15
Wool, unmanufactured (mt)	29	25	--	2	3	75	66	--	5	6
Grains and feeds	--	--	--	--	--	2,943	3,058	3,200	233	217
Fruits, nuts, and preps.,										
excl. juices (mt) ⁶	8,171	8,366	8,300	722	707	4,619	4,546	5,600	429	405
Bananas and plantains (mt)	4,418	4,396	4,300	306	318	1,212	1,128	1,100	82	88
Fruit juices (1,000 hectoliters)	31,655	32,199	30,000	2,631	2,138	772	783	--	58	47
Vegetables and preps.	--	--	--	--	--	4,527	4,657	4,900	432	468
Tobacco, unmanufactured (mt)	217	220	200	23	21	742	651	600	75	69
Cotton, unmanufactured (mt)	144	34	--	3	4	150	28	--	4	2
Seeds (mt)	357	448	--	74	22	457	493	--	35	31
Nursery stock and cut flowers	--	--	--	--	--	1,076	1,165	1,200	124	126
Sugar, cane or beet (mt)	1,692	1,379	--	110	128	606	493	--	43	52
Oilseeds and products (mt)	3,767	4,069	4,300	301	351	1,899	1,873	1,800	143	137
Oilseeds (mt)	1,000	1,103	--	59	43	326	310	--	20	16
Protein meal (mt)	1,131	1,194	--	105	119	147	150	--	13	13
Vegetable oils (mt)	1,637	1,772	--	137	189	1,427	1,413	--	109	108
Beverages, excl. fruit										
juices (1,000 hectoliters)	--	--	--	--	--	4,258	4,702	--	327	320
Coffee, tea, cocoa, spices (mt)	2,520	2,841	--	282	226	5,306	5,218	--	481	331
Coffee, incl. products (mt)	1,294	1,411	1,300	125	101	2,967	2,905	2,800	273	136
Cocoa beans and products (mt)	865	1,046	1,000	128	97	1,531	1,466	1,400	152	129
Rubber and allied gums (mt)	1,148	1,249	1,200	91	71	739	841	900	61	49
Other	--	--	--	--	--	2,646	2,735	--	219	204
Total	--	--	--	--	--	37,310	38,923	40,000	3,231	3,063

F = Forecast. -- = Not available. Projections are fiscal years (Oct.1 through Sept. 30) and are from Outlook for U.S. Agricultural Exports.

1999 and 2000 data are from *Foreign Agricultural Trade of the U.S.* 1. Projection includes beef, pork, and variety meat. 2. Projection includes

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

Information contact: Mary Fant (202) 694-5272

Table 28—U.S. Agricultural Exports by Region

	Fiscal year			2000					2001	
	1999	2000	2001 F	Feb	Sep	Oct	Nov	Dec	Jan	Feb
\$ million										
Region & country										
Western Europe	7,528	6,712	6,600	624	454	795	650	704	626	718
European Union ¹	6,958	6,373	6,200	596	419	710	591	687	605	665
Belgium-Luxembourg	602	538	--	43	43	53	62	78	65	46
France	377	347	--	33	19	29	27	53	26	49
Germany	1,057	947	--	84	74	97	84	73	91	97
Italy	574	560	--	49	30	44	41	56	37	68
Netherlands	1,587	1,459	--	163	81	155	171	184	163	162
United Kingdom	1,122	1,033	--	92	91	144	101	72	84	80
Portugal	131	145	--	22	5	11	3	22	22	18
Spain, incl. Canary Islands	784	664	--	65	24	87	52	83	55	82
Other Western Europe	570	340	400	28	35	84	60	17	21	53
Switzerland	455	250	--	22	27	75	50	12	15	47
Eastern Europe	190	167	200	18	11	17	18	13	16	21
Poland	73	47	--	3	3	6	8	4	6	8
Former Yugoslavia	47	67	--	11	4	3	5	2	4	6
Romania	18	12	--	0	1	3	1	5	1	3
Newly Independent States	881	937	800	61	72	100	86	61	85	61
Russia	532	674	600	29	41	76	67	43	67	45
Asia²	20,441	22,051	20,200	1,857	1,701	1,964	1,978	1,970	1,905	1,967
West Asia (Mideast)	1,978	2,363	2,400	209	215	254	203	194	156	187
Turkey	448	701	700	62	35	30	59	68	34	30
Iraq	9	8	--	0	--	--	--	--	--	3
Israel, incl. Gaza and W. Bank	417	458	--	58	41	39	47	51	43	36
Saudi Arabia	468	482	500	44	47	46	44	41	40	40
South Asia	499	416	400	31	40	49	33	53	28	32
Bangladesh	165	82	--	5	4	6	4	16	6	13
India	189	186	--	18	24	23	21	20	18	9
Pakistan	89	93	--	1	6	8	6	6	2	2
China	1,011	1,474	1,800	110	88	200	195	167	177	252
Japan	8,933	9,353	9,200	845	679	709	776	775	840	737
Southeast Asia	2,218	2,602	2,800	206	241	270	307	195	274	291
Indonesia	499	681	800	46	64	84	47	50	92	89
Philippines	735	866	900	67	76	78	111	68	85	72
Other East Asia	5,803	5,844	6,000	456	437	482	464	585	430	468
Korea, Rep.	2,482	2,569	2,700	219	200	183	196	276	205	209
Hong Kong	1,264	1,255	1,300	92	103	118	128	123	84	95
Taiwan	2,047	2,011	2,000	144	135	175	139	186	141	163
Africa	2,160	2,272	2,500	177	255	253	175	213	166	208
North Africa	1,468	1,565	1,700	136	189	190	103	149	123	161
Morocco	162	141	--	23	19	30	6	24	7	6
Algeria	223	255	--	13	22	21	23	16	27	31
Egypt	1,002	1,094	1,000	95	140	134	61	80	74	112
Sub-Saharan	693	707	800	40	66	63	72	65	43	47
Nigeria	176	160	--	11	14	17	21	14	14	12
S. Africa	165	164	--	8	17	9	13	7	9	7
Latin America and Caribbean	10,495	10,639	11,500	857	904	989	1,054	985	889	919
Brazil	366	253	300	22	14	18	29	19	17	11
Caribbean Islands	1,453	1,457	--	120	111	130	137	114	105	110
Central America	1,209	1,129	--	85	97	89	113	96	84	93
Colombia	468	427	--	25	22	39	35	30	31	32
Mexico	5,672	6,329	7,100	501	575	634	624	648	574	599
Peru	347	201	--	10	14	8	19	5	9	16
Venezuela	458	404	400	47	37	42	31	30	30	24
Canada	6,951	7,520	8,100	592	623	726	689	607	656	599
Oceania	502	490	500	34	41	49	43	41	31	43
Total	49,148	50,911	53,000	4,220	4,085	4,987	4,764	4,613	4,373	4,536

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 for 1998 and 1999 through December 1999, but transshipments are not distributed by country as previously for 2000. Information contact: Mary Fant (202) 694-5272

Farm Income

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

	1992	1993	1994	1995	1996	1997	1998	1999	2000F	2001F
	\$ billion									
Final crop output	88.9	82.4	100.3	95.7	115.6	112.3	102.1	93.1	96.3	101.0
Food grains	8.5	8.2	9.5	10.4	10.8	10.4	8.9	7.3	7.0	7.0
Feed crops	20.1	20.2	20.3	24.5	27.2	27.0	22.7	19.8	20.5	21.7
Cotton	5.2	5.2	6.7	6.9	7.0	6.3	6.1	4.7	5.3	6.2
Oil crops	13.3	13.2	14.7	15.5	16.4	19.8	17.5	13.6	15.0	15.7
Tobacco	3.0	2.9	2.7	2.5	2.8	2.9	2.8	2.3	2.0	2.4
Fruits and tree nuts	10.1	10.3	10.3	11.1	11.9	13.1	12.2	13.0	12.7	12.8
Vegetables	11.8	13.7	14.0	15.0	14.4	14.7	15.1	15.2	16.0	15.9
All other crops	13.7	13.7	14.7	15.0	15.8	16.9	17.1	17.4	18.1	18.4
Home consumption	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Value of inventory adjustment ¹	3.2	-5.3	7.2	-5.3	9.1	1.1	-0.5	-0.2	-0.4	0.6
Final animal output	87.1	92.0	89.7	87.7	92.0	96.5	94.2	95.1	99.2	100.2
Meat animals	47.7	51.0	46.7	44.9	44.2	49.7	43.3	45.6	51.8	50.6
Dairy products	19.7	19.3	20.0	19.9	22.8	20.9	24.1	23.2	20.7	21.7
Poultry and eggs	15.5	17.4	18.5	19.1	22.5	22.3	22.9	22.9	23.3	23.8
Miscellaneous livestock	2.6	2.9	3.1	3.3	3.4	3.6	3.7	3.7	3.7	3.7
Home consumption	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4
Value of inventory adjustment ¹	1.0	1.1	1.1	0.2	-1.1	-0.4	-0.3	-0.7	-0.6	0.1
Services and forestry	15.2	17.0	18.1	19.9	20.8	22.1	24.7	26.7	27.5	27.6
Machine hire and customwork	1.8	1.9	2.1	1.9	2.2	2.4	2.2	2.0	2.2	2.3
Forest products sold	2.2	2.5	2.6	2.8	2.6	2.8	3.0	2.9	2.9	2.9
Other farm income	4.1	4.6	4.3	5.8	6.2	6.9	8.7	10.8	11.2	10.9
Gross imputed rental value of farm dwellings	7.2	8.1	9.0	9.4	9.9	10.1	10.8	10.9	11.2	11.5
Final agricultural sector output ²	191.3	191.3	208.0	203.4	228.4	230.9	221.0	214.9	223.0	228.9
<i>Minus</i> Intermediate consumption outlays:	93.4	100.7	104.9	109.7	113.2	121.0	118.5	120.8	126.5	127.6
Farm origin	38.6	41.3	41.3	41.8	42.7	46.8	44.8	45.5	47.1	46.2
Feed purchased	20.1	21.4	22.6	23.8	25.2	26.3	25.0	24.5	24.7	24.7
Livestock and poultry purchased	13.6	14.7	13.3	12.5	11.3	13.8	12.5	13.8	15.2	14.4
Seed purchased	4.9	5.2	5.4	5.5	6.2	6.7	7.2	7.2	7.2	7.1
Manufactured inputs	22.7	23.1	24.4	26.1	28.6	29.2	28.2	27.3	30.2	30.9
Fertilizers and lime	8.3	8.4	9.2	10.0	10.9	10.9	10.6	9.9	10.4	10.8
Pesticides	6.5	6.7	7.2	7.7	8.5	9.0	9.0	8.6	8.6	8.8
Petroleum fuel and oils	5.3	5.4	5.3	5.4	6.0	6.2	5.6	5.8	8.1	8.1
Electricity	2.6	2.7	2.7	3.0	3.2	3.0	2.9	3.0	3.0	3.1
Other intermediate expenses	32.1	36.2	39.2	41.7	41.9	44.9	45.6	48.0	49.2	50.6
Repair and maintenance of capital items	8.5	9.2	9.1	9.5	10.3	10.4	10.4	10.5	10.6	10.9
Machine hire and customwork	3.8	4.4	4.8	4.8	4.7	4.9	5.4	5.3	5.5	5.6
Marketing, storage, and transportation	4.5	5.6	6.8	7.2	6.9	7.1	6.9	7.3	7.6	8.0
Contract labor	1.7	1.8	1.8	2.0	2.1	2.6	2.4	2.6	2.7	2.8
Miscellaneous expenses	13.6	15.2	16.7	18.3	17.8	19.9	20.6	22.3	22.8	23.3
<i>Plus</i> Net government transactions:	2.7	6.9	1.1	0.2	0.2	0.2	4.8	13.1	14.5	6.4
+ Direct government payments	9.2	13.4	7.9	7.3	7.3	7.5	12.2	20.6	22.1	14.1
- Motor vehicle registration and licensing fees	0.4	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.4	0.5
- Property taxes	6.1	6.2	6.4	6.6	6.7	6.8	6.9	7.1	7.1	7.3
Gross value added	100.5	97.5	104.3	93.9	115.4	110.1	107.3	107.2	111.0	107.7
<i>Minus</i> Capital consumption	18.3	18.3	18.7	19.2	19.4	19.6	19.7	19.9	19.8	20.2
Net value added ²	82.2	79.2	85.6	74.7	96.0	90.6	87.5	87.3	91.2	87.5
<i>Minus</i> Factor payments:	34.6	34.8	36.8	37.8	41.1	42.0	42.9	43.9	45.8	46.2
Employee compensation (total hired labor)	12.3	13.2	13.5	14.3	15.2	16.0	16.9	17.5	18.1	18.9
Net rent received by nonoperator landlords	11.2	10.9	11.8	10.9	12.9	12.8	12.7	12.9	13.5	12.6
Real estate and non-real estate interest	11.0	10.7	11.6	12.6	13.0	13.1	13.4	13.6	14.2	14.7
Net farm income ²	47.7	44.3	48.8	36.9	54.9	48.6	44.6	43.4	45.4	41.3

Values in last two columns are preliminary or forecast. 1. A positive value of inventory change represents current-year production not sold by December 31. A negative value is an offset to production from prior years included in current-year sales. 2. Final sector output is the gross value of commodities and services produced within a year. Net value added is the sector's contribution to the National economy and is the sum of income from production earned by all factors of production. Net farm income is farm operators' share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development. *Information contact: Roger Strickland: rogers@ers.usda.gov*

To confirm that this table contains the current forecast, go to <http://www.ers.usda.gov/briefing/farmincome/fore/fore.htm>

Table 30—Farm Income Statistics

	1992	1993	1994	1995	1996	1997	1998	1999	2000F	2001F
\$ billion										
Cash income statement										
1. Cash receipts	171.3	177.9	181.1	188.0	199.1	207.6	196.6	188.6	196.0	200.0
Crops ¹	85.6	87.5	92.9	100.8	106.3	111.1	102.5	93.1	96.6	100.2
Livestock	85.7	90.4	88.2	87.1	92.8	96.5	94.1	95.5	99.5	99.8
2. Direct Government payments	9.2	13.4	7.9	7.3	7.3	7.5	12.2	20.6	22.1	14.1
3. Farm-related income ²	8.0	9.0	9.0	10.5	10.9	12.0	13.9	15.8	16.3	16.1
4. Gross cash income (1+2+3)	188.5	200.3	198.1	205.8	217.4	227.1	222.6	225.0	234.4	230.2
5. Cash expenses ³	133.5	141.2	147.4	153.2	159.8	168.6	167.2	170.4	178.0	179.5
6. Net cash income (4-5)	54.9	59.1	50.7	52.5	57.6	58.5	55.4	54.6	56.4	50.7
Farm income statement										
7. Gross cash income (4)	188.5	200.3	198.1	205.8	217.4	227.1	222.6	225.0	234.4	230.2
8. Noncash income ⁴	7.8	8.7	9.6	9.9	10.3	10.6	11.3	11.4	11.7	12.1
9. Value of inventory adjustment	4.2	-4.2	8.3	-5.0	8.0	0.7	-0.7	-0.9	-1.0	0.7
10. Gross farm income (7+8+9)	200.4	204.7	215.9	210.7	235.7	238.4	233.2	235.5	245.1	243.0
11. Total production expenses	152.8	160.4	167.1	173.8	180.8	189.8	188.6	192.1	199.7	201.7
12. Net farm income (10-11)	47.7	44.3	48.8	36.9	54.9	48.6	44.6	43.4	45.4	41.3

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

Roger Strickland: rogers@ers.usda.gov

To confirm that this table contains the current forecast, go to <http://www.ers.usda.gov/briefing/farmincome/fore/fore.htm>

Table 31—Average Income to Farm Operator Households¹

	1992	1993	1994	1995	1996	1997	1998	1999	2000
\$ per farm									
Net cash farm business income ²	11,320	11,248	11,389	11,218	13,502	12,676	14,357	13,194	12,951
Less depreciation ³	5,187	6,219	6,466	6,795	6,906	6,578	7,409	7,027	--
Less wages paid to operator ⁴	216	454	425	522	531	513	637	499	--
Less farmland rental income ⁵	360	534	701	769	672	568	543	802	--
Less adjusted farm business income due to other household(s) ⁶	961	872	815	649	1,094	*1,505	1,332	1,262	--
\$ per farm operator household									
Equals adjusted farm business income	4,596	3,168	2,981	2,484	4,300	3,513	4,436	3,603	--
Plus wages paid to operator	216	454	425	522	531	513	637	499	--
Plus net income from farmland rental ⁷	360	--	--	1,053	1,178	945	868	1,312	--
Equals farm self-employment income	5,172	3,623	3,407	4,059	6,009	4,971	5,941	5,415	--
Plus other farm-related earnings ⁸	2,008	1,192	970	661	1,898	1,234	1,165	944	--
Equals earnings of the operator household from farming activities	7,180	4,815	4,376	4,720	7,906	6,205	7,106	6,359	4,600
Plus earnings of the operator household from off-farm sources ⁹	35,731	35,408	38,092	39,671	42,455	46,358	52,628	57,988	60,058
Equals average farm operator household income	42,911	40,223	42,469	44,392	50,361	52,562	59,734	64,347	64,658
\$ per U.S. household									
U.S. average household income ¹⁰	38,840	41,428	43,133	44,938	47,123	49,692	51,855	54,842	--
Percent									
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	106.9	105.8	115.2	117.3	--
Average operator household earnings from farming activities as percent of average operator household income	16.7	12.0	10.3	10.6	15.7	11.8	11.9	9.9	--

-- = Not available. Values in last two columns are 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 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 hoppe@ers.usda.gov

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

	1992	1993	1994	1995	1996	1997	1998	1999	2000F	2001F
	\$ billion									
Farm assets	868.3	910.2	936.1	967.6	1,004.8	1,053.1	1,085.5	1,116.6	1,121.0	1,132.1
Real estate	640.8	677.6	704.1	740.5	769.5	808.2	841.8	870.0	874.4	883.1
Livestock and poultry ¹	71.0	72.8	67.9	57.8	60.3	67.1	63.4	70.6	69.7	71.0
Machinery and motor vehicles	85.4	86.4	88.1	89.4	89.8	90.1	90.2	89.0	89.3	89.4
Crops stored ^{2,3}	24.2	23.3	23.3	27.4	31.7	32.9	30.1	26.9	28.1	28.0
Purchased inputs	3.9	3.8	5.0	3.4	4.4	5.1	5.3	4.2	4.5	4.6
Financial assets	43.1	46.3	47.6	49.1	49.0	49.7	54.8	55.8	55.0	56.0
Total farm debt	139.1	142.0	146.8	150.8	156.1	165.4	172.9	176.4	180.6	182.8
Real estate debt ³	75.4	76.0	77.7	79.3	81.7	85.4	89.6	94.2	97.3	98.6
Non-real estate debt ⁴	63.6	65.9	69.1	71.5	74.4	80.1	83.2	82.2	83.2	84.2
Total farm equity	729.3	768.2	789.3	816.8	848.7	887.7	912.7	940.2	940.4	949.3
Selected ratios										
Debt to equity	19.1	18.5	18.6	18.5	18.4	18.6	18.9	18.8	19.2	19.3
Debt to assets	16.0	15.6	15.7	15.6	15.5	15.7	15.9	15.8	16.1	16.1

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

To confirm that this table contains the current forecast, go to <http://www.ers.usda.gov/briefing/farmincome/fore/fore.htm>

Table 33—Cash Receipts from Farming

	Annual			2000						2001
	1998	1999	2000P	Jan	Aug	Sep	Oct	Nov	Dec	Jan
	\$ million									
Commodity cash receipts ¹	196,575	188,610	193,745	16,869	16,285	17,912	21,880	18,697	15,848	17,130
Livestock and products	94,112	95,463	99,052	7,924	8,763	8,182	8,584	8,961	6,917	7,913
Meat animals	43,336	45,600	51,842	4,294	4,825	4,229	4,469	4,587	3,004	4,343
Dairy products	24,114	23,204	20,888	1,563	1,743	1,753	1,794	1,704	1,818	1,563
Poultry and eggs	22,942	22,942	21,905	1,729	1,880	1,799	2,038	2,041	1,820	1,723
Other	3,719	3,717	4,417	338	314	400	283	630	275	284
Crops	102,463	93,146	94,693	8,945	7,522	9,730	13,296	9,736	8,931	9,217
Food grains	8,892	7,292	6,694	642	714	773	467	333	506	619
Feed crops	22,666	19,752	20,147	3,046	1,500	1,958	2,925	1,804	1,982	3,272
Cotton (lint and seed)	6,101	4,696	4,665	556	160	362	1,040	810	1,082	692
Tobacco	2,803	2,273	1,766	301	328	418	167	193	200	239
Oil-bearing crops	17,483	13,555	14,025	1,866	751	1,421	3,880	1,131	988	1,929
Vegetables and melons	15,145	15,164	16,200	825	1,748	1,909	1,737	1,103	873	801
Fruits and tree nuts	12,238	12,975	13,374	609	1,336	1,259	1,416	1,970	1,451	583
Other	17,136	17,441	17,822	1,099	985	1,630	1,664	2,392	1,850	1,082
Government payments	12,209	20,594	21,769	2,607	967	6,272	3,154	2,010	--	--
Total	208,784	209,204	215,515	19,476	18,892	18,879	28,152	21,852	17,858	18,991

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

Table 34—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops ¹				Total ¹			
	1999	2000P	Dec 2000	Jan 2001	1999	2000P	Dec 2000	Jan 2001	1999	2000P	Dec 2000	Jan 2001
\$ million												
North Atlantic												
Maine	286	269	22	23	229	245	16	17	515	514	37	40
New Hampshire	63	63	5	5	90	97	8	6	153	159	13	11
Vermont	473	433	38	36	68	67	4	3	541	499	43	39
Massachusetts	101	100	8	9	295	316	21	10	396	416	29	19
Rhode Island	8	8	1	1	39	40	6	2	48	48	7	3
Connecticut	180	176	15	14	302	333	34	14	482	509	50	28
New York	2,043	1,917	168	151	1,054	1,187	84	71	3,097	3,104	251	222
New Jersey	187	248	12	17	554	612	34	24	740	859	46	41
Pennsylvania	2,877	2,749	230	212	1,193	1,252	120	115	4,070	4,001	351	328
North Central												
Ohio	1,786	1,795	125	134	2,643	2,626	184	320	4,429	4,421	309	454
Indiana	1,581	1,703	144	105	2,792	2,913	252	404	4,373	4,616	396	509
Illinois	1,524	1,623	94	120	5,233	5,364	379	1,263	6,757	6,987	473	1,383
Michigan	1,331	1,693	120	95	2,139	2,091	189	168	3,470	3,784	309	262
Wisconsin	4,149	3,506	273	77	1,447	1,471	124	159	5,596	4,977	396	236
Minnesota	3,548	3,713	240	276	3,513	3,678	371	458	7,061	7,392	611	734
Iowa	4,712	5,950	470	498	5,004	5,107	393	763	9,716	11,057	863	1,261
Missouri	2,477	2,496	170	191	1,779	1,901	195	308	4,256	4,397	366	498
North Dakota	647	723	38	218	2,112	2,062	254	253	2,759	2,785	292	472
South Dakota	1,830	1,975	61	159	1,709	1,773	101	162	3,539	3,748	163	321
Nebraska	5,425	6,071	394	481	3,130	3,069	290	452	8,555	9,139	683	934
Kansas	5,009	5,613	406	410	2,607	2,563	261	303	7,616	8,176	667	714
Southern												
Delaware	566	557	44	48	153	182	9	7	718	740	53	56
Maryland	937	944	79	82	544	618	44	34	1,481	1,562	122	116
Virginia	1,580	1,627	106	120	704	734	57	52	2,283	2,361	163	171
West Virginia	334	334	24	24	53	53	5	6	387	387	30	30
North Carolina	3,850	4,186	346	315	2,838	2,884	330	168	6,688	7,071	676	483
South Carolina	773	753	58	60	633	666	62	40	1,406	1,420	120	100
Georgia	3,334	3,185	239	272	1,907	1,897	208	140	5,241	5,082	447	412
Florida	1,363	1,333	127	111	5,702	5,598	573	534	7,066	6,930	700	645
Kentucky	2,158	2,440	93	326	1,298	1,031	177	281	3,456	3,471	270	607
Tennessee	1,011	1,078	61	109	963	986	103	125	1,974	2,065	164	235
Alabama	2,777	2,589	201	221	662	590	68	38	3,438	3,179	270	258
Mississippi	2,143	2,053	167	175	1,031	896	90	97	3,174	2,948	257	272
Arkansas	3,397	3,247	243	268	1,863	1,655	142	129	5,259	4,902	385	397
Louisiana	620	654	44	60	1,228	1,170	248	147	1,848	1,825	291	208
Oklahoma	3,135	3,463	94	301	855	785	62	67	3,991	4,249	156	368
Texas	8,480	8,942	646	694	4,572	4,197	512	408	13,052	13,139	1,159	1,102
Western												
Montana	928	1,008	26	78	789	707	80	66	1,716	1,715	106	145
Idaho	1,603	1,563	80	123	1,744	1,955	208	112	3,347	3,518	287	235
Wyoming	680	736	20	66	172	161	23	8	852	897	42	74
Colorado	3,016	3,221	243	268	1,338	1,277	156	104	4,354	4,498	399	373
New Mexico	1,441	1,523	62	117	513	476	41	18	1,953	1,999	104	135
Arizona	987	1,073	75	72	1,191	1,237	179	178	2,178	2,310	254	251
Utah	724	714	64	62	243	242	20	17	967	956	84	79
Nevada	216	216	15	19	118	150	12	8	334	366	27	27
Washington	1,658	1,519	129	120	3,275	3,389	283	275	4,933	4,909	412	395
Oregon	790	844	36	65	2,262	2,229	145	119	3,052	3,073	181	184
California	6,714	6,306	549	494	18,087	19,702	1,736	726	24,801	26,008	2,285	1,220
Alaska	29	32	3	2	19	20	1	1	48	53	4	3
Hawaii	86	88	7	7	447	437	36	34	533	525	43	41
U.S.	95,567	99,052	6,917	7,913	93,134	94,693	8,931	9,217	188,701	193,745	15,848	17,130

Annual values for the most recent year are preliminary. Estimates as of end of current month. Totals may not add because of rounding.

1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. Information contact: Larry Traub (202) 694-5593 or ltraub@ers.usda.gov. To receive current monthly cash receipts via e-mail, contact Larry Traub.

Table 35—CCC Net Outlays by Commodity & Function

	Fiscal year									
	1993	1994	1995	1996	1997	1998	1999	2000	2001 ⁴	2002 ⁴
	\$ million									
Commodity/Program										
Feed grains:										
Corn	5,143	625	2,090	2,021	2,587	2,873	5,402	10,203	4,386	3,013
Grain sorghum	410	130	153	261	284	296	502	983	274	293
Barley	186	202	129	114	109	168	224	399	156	112
Oats	16	5	19	8	8	17	41	61	61	27
Corn and oat products	10	10	1	0	0	0	0	5	3	1
Total feed grains	5,765	972	2,392	2,404	2,988	3,354	6,169	11,651	4,880	3,446
Wheat and products	2,185	1,729	803	1,491	1,332	2,187	3,435	5,365	2,121	1,120
Rice	887	836	814	499	459	491	911	1,894	920	859
Upland cotton	2,239	1,539	99	685	561	1,132	1,882	4,015	827	709
Tobacco	235	693	-298	-496	-156	376	113	634	148	-97
Dairy	253	158	4	-98	67	291	480	684	1,217	157
Soybeans	109	-183	77	-65	5	139	1,289	2,864	3,324	2,821
Peanuts	-13	37	120	100	6	-11	21	35	62	0
Sugar	-35	-24	-3	-63	-34	-30	-51	465	-37	-29
Honey	22	0	-9	-14	-2	0	2	7	26	-10
Wool and mohair	179	211	108	55	0	0	10	-2	35	-13
Operating expense ¹	6	6	6	6	6	5	4	60	5	5
Interest expenditure	129	-17	-1	140	-111	76	210	736	336	548
Export programs ²	2,193	1,950	1,361	-422	125	212	165	216	569	596
1988-2000 Disaster/tree/ livestock assistance	944	2,566	660	95	130	3	2,241	1,452	2,544	0
Conservation Reserve Program	0	0	0	2	1,671	1,693	1,462	1,511	1,693	1,788
Other conservation programs	0	0	0	7	105	197	292	263	367	277
Other	949	-137	-103	320	104	28	588	415	1,490	881
Total	16,047	10,336	6,030	4,646	7,256	10,143	19,223	32,265	20,527	13,058
Function										
Price support loans (net)	2,065	527	-119	-951	110	1,128	1,455	3,369	1,315	853
Cash direct payments: ³										
Production flexibility contract	0	0	0	5,141	6,320	5,672	5,476	5,057	4,072	3,952
Market loss assistance	0	0	0	0	0	0	3,011	11,046	675	0
Deficiency	8,607	4,391	4,008	567	-1,118	-7	-3	1	0	0
Loan deficiency	387	495	29	0	0	478	3,360	6,419	5,611	4,225
Oilseed	0	0	0	0	0	0	0	460	500	0
Cotton user marketing	114	149	88	34	6	416	280	446	214	151
Other	35	22	9	61	1	0	1	460	549	14
Conservation Reserve Program	0	0	0	2	1,671	1,693	1,435	1,476	1,665	1,788
Other conservation programs	0	0	0	0	85	156	247	215	306	233
Noninsured Assistance (NAP)	0	0	0	2	52	23	54	38	177	160
Total direct payments	9,143	5,057	4,134	5,807	7,017	8,431	13,861	25,618	13,769	10,523
1988-00 crop disaster	872	2,461	577	14	2	-2	1,913	1,251	1,995	0
Emergency livestock/tree/DRAP livestock indemn/forage assist.	72	105	83	81	128	5	328	201	549	0
Purchases (net)	525	293	-51	-249	-60	207	668	595	1,079	-42
Producer storage payments	9	12	23	0	0	0	0	0	0	0
Processing, storage, and transportation	136	112	72	51	33	38	62	81	95	81
Export donations ocean transportation	352	156	50	69	34	40	323	370	310	36
Operating expense ¹	6	6	6	6	6	5	4	60	5	5
Interest expenditure	129	-17	-1	140	-111	76	210	736	336	548
Export programs ²	2,193	1,950	1,361	-422	125	212	165	216	569	596
Other	545	-326	-105	100	-28	3	234	-232	505	458
Total	16,047	10,336	6,030	4,646	7,256	10,143	19,223	32,265	20,527	13,058

1. Does not include CCC Transfers to General Sales Manager. 2. Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Access (Promotion) Program, starting in FY 1991 and starting in FY 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, Dairy Export Incentive Program, and Technical Assistance to Emerging Markets, and starting in FY 2000 Foreign Market Development Cooperative Program and Quality Samples Program. 3. Includes cash payments only. Excludes generic certificates in FY 86-96.

4. Estimated in FY 2002 President's Budget which was released on April 9, 2001 based on October 2000 supply & demand estimates. The CCC outlays shown for 1996-2002 include the impact of the Federal Agriculture Improvement and Reform Act of 1996, which was enacted on April 4, 1996, and FY 2000-FY 2002 outlays include the impact of the Agricultural Risk Protection Act of 2000, which was enacted on June 20, 2000.

Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).

Information contact: Richard Pazdalski Farm Service Agency-Budget at (202) 720-3675 or Richard_Pazdalski@wdc.fsa.usda.gov .

Food Expenditures

Table 36—Food Expenditures

	Annual			2001			Year-to-date cumulative		
	1997	1998	1999	Jan	Feb	Mar	Jan	Feb	Mar
<i>\$ billion</i>									
Sales ¹									
At home ²	383.8	392.3	407.3	34.7	33.9	35.4	34.7	68.6	104.1
Away from home ³	309.5	322.1	343.7	29.5	29.9	37.5	29.5	59.4	96.9
<i>1998 \$ billion</i>									
Sales ¹									
At home ²	392.4	392.3	397.8	32.7	31.9	33.2	32.7	64.6	97.8
Away from home ³	317.4	322.1	335.3	27.8	28.0	35.1	27.8	55.8	90.9
<i>Percent change from year earlier (\$ billion)</i>									
Sales ¹									
At home ²	3.8	2.2	3.8	5.8	4.7	-0.5	5.8	5.2	3.2
Away from home ³	5.9	4.1	6.7	6.2	4.6	18.3	6.2	5.4	10.0
<i>Percent change from year earlier (1998 \$ billion)</i>									
Sales ¹									
At home ²	-0.2	0.0	1.4	2.5	1.7	-3.7	2.5	2.1	0.1
Away from home ³	3.0	1.5	4.1	3.6	2.0	15.3	3.6	2.8	7.3

-- = Not available. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production. 3. Excludes donations, child nutrition subsidies, and meals furnished to employees, patients, and inmates. *Information contact: Annette Clauson (202) 694-5389*
 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			2000					2001	
	1998	1999	2000	Feb	Sep	Oct	Nov	Dec	Jan	Feb
Rail freight rate index ¹ (Dec. 1984=100)										
All products	113.4	113.0	114.5	113.9	114.7	115.2	115.1	115.5	115.9	115.6
Farm products	123.9	121.7	123.0	122.4	124.6	124.5	124.5	124.1	124.8	124.3
Grain food products	107.4	99.7	100.4	99.7	100.4	100.9	100.9	101.2	101.3	102.5
Grain shipments										
Rail carloadings (1,000 cars) ²	22.8	24.2	23.2	23.7	24.6	24.9	21.0	19.3	23.0	23.1
Barge shipments (mil. ton) ³	3.0	3.5	3.1	1.9	2.7	3.1	3.8	2.2	1.0	1.9
Fresh fruit and vegetable shipments ⁴										
Piggy back (mil. cwt)	0.9	0.7	0.8	0.7	0.8	0.6	0.8	0.8	0.7	0.6
Rail (mil. cwt)	1.2	1.1	1.4	1.1	1.2	1.7	2.1	2.2	1.8	1.3
Truck (mil. cwt)	42.2	45.2	45.0	38.6	39.4	40.1	39.9	42.9	37.8	36.0

P= Preliminary. R = Revised. -- = Not available. 1. Department of Labor, Bureau of Labor Statistics. 2. Weekly average; from Association of American Railroads. 3. Shipments on Illinois and Mississippi waterways, U.S. Corps of Engineers. 4. Annual data are monthly average. 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
<i>1992 = 100</i>										
Farm output	88	83	89	94	94	100	94	107	101	106
All livestock products	92	93	94	95	98	100	100	108	110	109
Meat animals	95	97	97	96	99	100	100	102	103	100
Dairy products	94	96	95	98	98	100	99	114	115	115
Poultry and eggs	81	83	86	92	96	100	104	110	114	119
All crops	86	75	86	92	92	100	90	106	96	103
Feed crops	84	62	85	88	86	100	76	102	83	98
Food crops	84	76	83	107	82	100	96	97	90	93
Oil crops	88	72	88	87	94	100	85	115	99	107
Sugar	95	91	91	92	96	100	95	106	98	94
Cotton and cottonseed	92	96	75	96	109	100	100	122	110	117
Vegetables and melons	90	81	85	93	97	100	97	113	108	112
Fruit and nuts	95	102	98	97	96	100	107	111	102	102
Farm input ¹	101	100	100	101	102	100	101	102	101	100
Farm labor	101	103	104	102	106	100	96	96	92	100
Farm real estate	100	100	102	101	100	100	98	99	98	99
Durable equipment	120	113	108	105	103	100	97	94	92	89
Energy	102	102	101	100	101	100	100	103	109	104
Fertilizer	106	97	94	97	98	100	111	109	85	89
Pesticides	92	79	93	90	100	100	97	103	94	106
Feed, seed, and purchased livestock	97	96	91	99	99	100	101	102	109	95
Inventories	102	98	93	97	100	100	104	99	108	104
Farm output per unit of input	87	83	90	93	92	100	94	105	100	106
Output per unit of labor										
Farm ²	87	81	86	92	89	100	98	111	110	106
Nonfarm ³	95	95	96	96	97	100	100	101	--	--

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

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

Food Supply & Use

Table 39—Per Capita Consumption of Major Food Commodities¹

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	Lbs.									
Red meats ^{2,3,4}	112.3	111.9	114.0	112.1	114.7	115.1	112.8	111.0	115.6	117.7
Beef	63.9	63.1	62.8	61.5	63.6	64.4	65.0	63.8	64.9	65.8
Veal	0.9	0.8	0.8	0.8	0.8	0.8	1.0	0.9	0.7	0.6
Lamb & mutton	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.9	0.9
Pork	46.4	46.9	49.4	48.9	49.5	49.0	45.9	45.5	49.2	50.5
Poultry ^{2,3,4}	56.3	58.3	60.8	62.5	63.3	62.9	64.1	64.2	65.0	68.3
Chicken	42.4	44.2	46.7	48.5	49.3	48.8	49.5	50.3	50.8	54.2
Turkey	13.8	14.1	14.1	14.0	14.1	14.1	14.6	13.9	14.2	14.1
Fish and shellfish ³	15.0	14.8	14.7	14.9	15.1	14.9	14.7	14.5	14.8	15.2
Eggs ⁴	30.2	30.1	30.3	30.4	30.6	30.2	30.4	30.7	31.8	32.8
Dairy products										
Cheese (excluding cottage) ^{2,5}	24.6	25.0	26.0	26.2	26.8	27.3	27.7	28.0	28.3	29.8
American	11.1	11.1	11.3	11.4	11.5	11.8	12.0	12.0	12.2	13.0
Italian	9.0	9.4	10.0	9.8	10.3	10.4	10.8	11.0	11.3	11.8
Other cheeses ⁶	4.5	4.6	4.7	5.0	5.0	5.0	5.0	5.0	4.8	5.0
Cottage cheese	3.4	3.3	3.1	2.9	2.8	2.7	2.6	2.7	2.7	2.7
Beverage milks ²	221.8	221.1	218.2	213.4	213.6	209.8	210.0	206.8	204.6	203.8
Fluid whole milk ⁷	90.4	87.3	84.0	80.1	78.8	75.3	74.6	72.7	71.6	72.4
Fluid lower fat milk ⁸	108.5	109.9	109.2	106.6	106.0	102.6	101.7	99.8	98.6	98.2
Fluid skim milk	22.9	23.9	25.0	26.7	28.8	31.9	33.7	34.3	34.4	33.2
Fluid cream products ⁹	7.6	7.7	8.0	8.0	8.1	8.4	8.7	9.0	9.2	9.7
Yogurt (excluding frozen)	4.0	4.2	4.2	4.3	4.7	5.1	4.8	5.1	5.1	4.9
Ice cream	15.8	16.3	16.3	16.1	16.1	15.7	15.9	16.4	16.6	16.8
Lowfat ice cream ¹⁰	7.7	7.4	7.1	6.9	7.6	7.5	7.6	7.9	8.3	7.9
Frozen yogurt	2.8	3.5	3.1	3.5	3.5	3.5	2.6	2.1	2.2	2.1
All dairy products, milk equivalent, milkfat basis ¹¹	568.3	565.6	565.8	574.1	585.9	583.8	574.6	577.6	581.7	597.9
Fats and oils--total fat content	63.0	64.8	66.8	69.7	68.0	66.3	65.3	64.9	65.6	68.5
Butter and margarine (product weight)	15.3	15.0	15.4	15.8	14.7	13.7	13.5	12.8	12.8	12.9
Shortening	22.2	22.4	22.4	25.1	24.1	22.5	22.3	20.9	21.0	21.6
Lard and edible tallow (direct use)	2.2	1.8	3.5	3.4	4.2	4.3	4.8	4.1	5.2	5.7
Salad and cooking oils	25.3	26.4	27.2	26.9	26.2	26.9	26.1	28.6	27.9	29.4
Fruits and vegetables ¹²	656.0	650.2	677.5	691.4	705.6	694.3	710.8	717.9	702.4	719.0
Fruit	272.6	255.3	283.7	283.2	290.9	284.9	290.2	296.9	284.4	297.9
Fresh fruits	116.3	113.0	123.5	124.5	126.3	124.1	128.1	131.9	131.3	132.5
Canned fruit	21.0	19.8	22.9	20.7	21.0	17.5	18.8	20.4	17.4	19.6
Dried fruit	12.1	12.3	10.8	12.6	12.8	12.8	11.3	10.8	12.4	10.5
Frozen fruit	3.8	3.8	3.9	3.7	3.8	4.2	4.0	3.7	4.2	3.7
Selected fruit juices	119.0	106.0	121.9	121.3	126.6	125.9	127.8	129.3	118.8	131.0
Vegetables	383.5	394.9	393.9	408.2	414.6	409.4	420.6	421.0	418.0	421.2
Fresh	167.1	167.4	171.1	178.1	184.5	179.1	184.1	188.9	185.5	192.1
Canning	111.5	114.3	112.2	112.8	112.3	110.8	109.5	107.8	109.3	105.7
Freezing	66.8	72.6	70.9	76.0	78.4	79.9	84.6	83.0	81.8	82.5
Dehydrated and chips	31.0	32.8	31.5	33.6	31.0	31.3	34.5	33.3	33.4	32.3
Pulses	7.1	7.8	8.1	7.7	8.4	8.4	8.0	8.1	7.9	8.6
Peanuts (shelled)	6.0	6.5	6.2	6.1	5.8	5.7	5.7	5.9	5.9	6.4
Tree nuts (shelled)	2.4	2.2	2.2	2.4	2.3	1.9	2.0	2.1	2.3	2.7
Flour and cereal products ¹³	181.0	182.7	185.7	190.7	194.0	192.8	199.2	200.9	198.4	201.9
Wheat flour	136.0	137.0	138.9	143.3	144.5	141.8	148.7	149.5	146.0	148.4
Rice (milled basis)	15.8	16.2	16.7	16.7	18.1	18.9	17.8	18.4	18.9	19.4
Caloric sweeteners ¹⁴	136.9	137.9	141.2	144.5	147.4	149.8	150.7	154.0	155.1	158.4
Coffee (green bean equiv.)	10.3	10.3	10.0	9.1	8.2	8.0	8.9	9.3	9.5	10.0
Cocoa (chocolate liquor equiv.)	4.3	4.6	4.6	4.3	3.9	3.6	4.2	4.1	4.4	4.6

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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact USDA's Target Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.