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Statistical Indicators

Statistical Indicators can be found in the printed version of the October 1997 issue of Agricultural Outlook. For more information, please contact Randy Schnepf at (202) 219-1281 (202-694-5331 after October 31).

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The Corn Market . . . Updates on Food Prices & CRP . . . The U.S. Ag Export Picture . . . & WTO Compliance

Corn Output Stable, Demand Prospects Strong

The corn market this fall is relatively calm, with supplies more abundant than a year ago and prices fairly stable. Corn production in 1997, forecast at 9.27 billion bushels, is down fractionally from 1996 but would be the fourth-highest on record. With much larger carryin stocks, corn supplies in 1997/98 are expected to increase 5 percent, but with strong prospective domestic demand and increased exports, the supply outlook is relatively tight and ending stocks are projected to shrink. The season-average price of corn received by farmers is forecast at \$2.45-\$2.85 per bushel in 1997/98.

U.S. Ag Exports To Rise In Fiscal '98

Fiscal 1998 U.S. agricultural exports are projected at \$58.5 billion, up \$2 billion from the 1997 forecast and second only to the 1996 record of \$59.8 billion. At \$38 billion, agricultural imports are also projected up \$2 billion, so the agricultural trade surplus will remain unchanged from the 1997 forecast of \$20.5 billion. The export value of both bulk and high-value products (HVP's) is expected to rise—HVP value is projected up \$1.5 billion over fiscal 1997 and bulk exports are expected up \$500 million. Meat and horticultural products account for much of the increase expected in HVP export value in 1998. The volume of bulk exports will be pushed up by larger U.S. exportable supplies of wheat, declining export competition for wheat and corn, and strong foreign demand for soybeans.

Food Prices Maintain Slow Rise

The Consumer Price Index (CPI) for food in 1998 is forecast to rise 2.5-3 percent, close to the 2.8-percent rise forecast for 1997. The at-home component of the CPI is forecast to increase 2.5 percent in 1997 and between 2.5 and 3 percent in 1998, and the away-from-home component is expected up 2.9 percent in 1997 and 2.5-3 percent in 1998. Food prices have held to moderate gains of 3 percent



annually since 1992, largely because general inflationary pressure has remained stable, keeping in check the costs of food production and marketing.

New CRP Criteria Enhance Environmental Benefits

The 1996 Farm Act continued the Conservation Reserve Program (CRP) up to a maximum of 36.4 million acres through the year 2002. The 15th CRP sign-up, conducted in March 1997, was the largest sign-up ever—USDA accepted 16.1 million acres of the 23.3 million offered. Acceptance was based on ranking of offers using an environmental benefits index. Early results suggest that the farmland acres accepted in the 15th sign-up, the first major CRP sign-up under the 1996 Farm Act, will provide greater environmental benefits and cost 22 percent less than CRP historically. USDA will hold a 16th sign-up during October and November with modifications to further enhance environmental effectiveness.

U.S. Is Well Below WTO Domestic Farm Support Ceilings

The U.S. will be able to meet World Trade Organization (WTO) commitments to reduce domestic support to agriculture

without making any further changes in domestic programs through the final year of the WTO implementation period—2000. The 1994 Uruguay Round (UR) Agreement on Agriculture requires WTO member-countries to reduce the total amount of trade-distorting domestic support for agriculture by 20 percent from a base-period level (1986-88). The ability of the U.S. to meet its WTO domestic support reduction commitments stems from two main factors. The first involves WTO provisions that specified how domestic support reduction objectives would be defined and implemented. Second is the shift in U.S. farm programs after 1985 toward increased market orientation and reduced subsidies.

New Tax Law: How Farmers Benefit

Most farmers will pay less Federal income tax, and farm families will find it easier to transfer farms across generations, under the Taxpayer Relief Act of 1997. Farmers are expected to save over \$1.6 billion per year in Federal income taxes and between \$150 and \$200 million in Federal estate taxes through a number of general and targeted tax relief provisions.

New Standards for Pesticide Residues in Food

The Food Quality Protection Act of 1996 (FQPA) creates a new, uniform, health-based standard for allowable pesticide-related risks in food. Under FQPA, a new safety standard for residues applies to all foods—raw and processed. FQPA establishes a new risk assessment process and requires the U.S. Environmental Protection Agency (EPA) to review all residue tolerances against the new standard within 10 years. EPA must also consider any special susceptibility of infants and children to pesticide effects. Additional provisions address registration of minor-use pesticides; uniformity among state, Federal, and international standards; improved data collection to support implementation of the law; and Federal communication to consumers about the risks and benefits of pesticide use.

Commodity Briefs



Jack Harrison

Livestock, Dairy & Poultry

Large Stocks Limit Dairy Price Recovery

Large U.S. commercial dairy stocks, particularly of nonfat dry milk and American cheese, loom as the greatest constraint to additional recovery in prices

of milk and dairy products. The August 1 total dairy holdings were more than 1 billion pounds, milk equivalent, above a year earlier. Any further seasonal price rises probably will be quite modest unless stocks can be reduced sharply and quickly.

Weak movement of cheese in the spring was the most important contributor to the stock buildup. Sluggish sales increased cheese inventories and also eliminated the need for normal growth in cheese production. As use of milk powder for cheese production plummeted and more milk went into butter and nonfat dry milk manufacture, stocks of nonfat dry milk soared.

August 1 stocks of American cheese varieties amounted to 469 million pounds, 18 percent higher than a year earlier, far outweighing the small decline in holdings of other cheese varieties. Although cheese stocks were large, they were still at a level where a rebound in sales could bring them back into balance fairly quickly.

Cheese prices rose sharply during July and August as cheese wholesale movement recovered and milk production gains stabilized. Early September cheese prices on the Chicago Mercantile Exchange were 20-24 cents per pound above the early May lows. Surpluses of nonfat dry

milk are available to boost cheese production, and any additional cheese price rises could trigger a movement of powder into cheese production. Exports under the Dairy Export Incentive Program (DEIP) and even significant sales to the government under the support program have yet to bring the heavy stocks of nonfat dry milk under control.

Manufacturers' stocks of nonfat dry milk on August 1 were 159 million pounds, more than double those of a year earlier. Commercial stocks of butter on August 1 were 62 million pounds, nearly twice the level reported for a year earlier. However, most of this noted rise was due to this year's improved coverage, as warehouses are now reporting butter stocks that had not been reported earlier. Butter stocks did not appear to be out of line with seasonal needs. Similarly, stocks of canned and dry whole milk were moderate.

Exports under the Dairy Export Incentive Program (DEIP) will reduce stocks somewhat in coming months, but additional large sales for quick shipment would be needed to have a significant effect on 1997 prices. A large portion of the recent surge in DEIP business is for shipment in late 1997 or early 1998. Allocations under DEIP for nonfat dry milk total about

U.S. Livestock and Poultry Products—Market Outlook

		Beginning stocks	Production	Imports	Total supply	Exports	Ending stocks	Consumption		Primary market price
								Total	Per capita	
								Million lbs.	Lbs.	\$/cwt
Beef	1997	377	25,367	2,467	28,211	1,918	375	25,918	67.2	66-67
	1998	375	24,906	2,680	27,961	2,095	350	25,516	65.6	70-76
Pork	1997	366	17,092	590	18,048	1,100	400	16,548	47.9	53-54
	1998	400	18,507	605	19,512	1,210	380	17,922	51.4	51-55
Broilers*	1997	641	27,199	4	27,844	4,630	675	22,539	73.1	60-61
	1998	675	28,953	3	29,631	4,750	750	24,131	77.5	57-62
Turkeys	1997	328	5,397	1	5,726	547	325	4,853	18.1	67-68
	1998	325	5,656	1	5,982	575	325	5,081	18.8	62-67
Eggs**	1997	8.5	6,442.9	5.4	6,456.8	235.0	10.0	5,315.7	238.0	79-81
	1998	10.0	6,580.0	4.0	6,594.0	255.0	10.0	5,389.0	239.1	72-78

Based on September 12, 1997 *World Agricultural Supply and Demand Estimates*.

*Cold storage stocks previously classified as "other chicken" are now included with broiler stocks. **Total consumption does not include eggs used for hatching. See tables 10 and 11 for complete definition of terms.

92,000 metric tons, down from 100,000 tons a year earlier.

Price support purchases of 27 million pounds of nonfat dry milk since May were the largest since 1994, although hardly large by the standards of most earlier years.

Dairy product demand is expected to be modest during the rest of 1997, as the economy continues to grow. However, commercial use is not expected to be enough to absorb the increase in milk output, pull down stocks, and generate much further price strength. Although DEIP sales certainly will buttress prices during autumn, the international market is not expected to generate a flurry of additional sales for autumn shipment.

Prices of nonfat dry milk are not projected to post much seasonal rise, and cheese prices and manufacturing milk values may slip after an early-autumn peak. Butter prices will be unsettled but may gain slightly as the yearend holidays approach. Average prices of all milk are projected to be about \$14 per cwt, significantly higher than during spring and summer but far below a year earlier.

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Specialty Crops

Dry Bean Production Up As Demand Grows Steadily

The U.S. is the fifth-largest producer of dry edible beans in the world—following India, China, Brazil, and Mexico. In 1997, U.S. dry bean growers will produce an estimated 29 million cwt—7 percent more than a year earlier and 3 percent above the annual average for the 1990's. Acreage and yields have been trending higher over time, and both rose in 1997.

This season, yield and production have increased despite early weather-related problems in the Red River Valley of North Dakota and Minnesota—the largest dry bean producing region in the U.S. Excessive rains in July flooded some fields in the valley, causing crop damage and greater-than-normal acreage abandonment. In North Dakota, an estimated 16 percent of acreage could be abandoned, compared with 10 percent during the previous 3 years. However, increased acreage and high yields in most other states out-

weighed lower production in North Dakota and Minnesota.

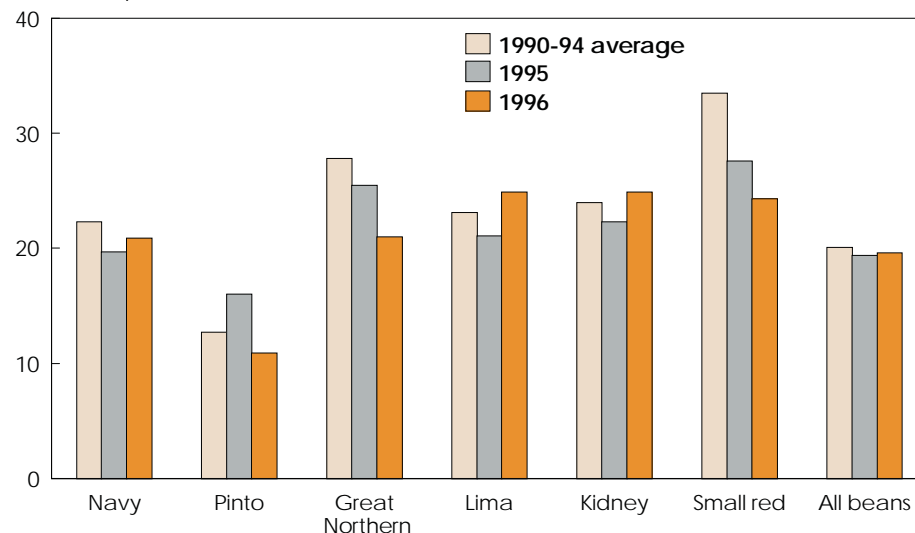
Based on acres planted, lower production is expected for pinto, garbanzo, and Great Northern beans in 1997, and higher output is likely for lima beans, small reds, blacks, and light-red kidneys. Larger overall production will raise stocks and likely result in lower prices into early 1998. Given lower dry bean prices next spring, a modest reduction in dry bean acreage is likely for the 1998 season.

Dry bean production is expected to remain on its slow growth trend into the year 2000, sustained by steady domestic and export market demand. Exports are important to the U.S. dry bean industry. The U.S. is a net exporter and a major player in the world dry bean market, ranking third in export volume behind China and Burma. In 1996, U.S. dry bean exports were valued at \$202 million (imports were \$28 million). The top U.S. export markets include the United Kingdom, Japan, Algeria, and Mexico.

Over the past 5 years, an average of 18 percent of U.S. dry bean supplies has been exported, and estimates suggest that this could rise to nearly 20 percent in 1997. An export share of production of 18

U.S. Exports About 20 Percent of Total Dry Bean Supplies

Percent exported



Commodity Briefs

percent is relatively high compared with other sectors of the vegetable industry, such as fresh vegetables (8 percent), frozen vegetables (7 percent), and canned vegetables (6 percent). Colored beans, such as pintos and kidneys, accounted for 64 percent of U.S. dry bean export value in 1996.

On the domestic front, per capita dry bean use has been rising since the early 1980's, particularly for kidneys, blacks, and pintos. Major factors in this trend include the growth of the Hispanic population in the U.S., the popularity of Mexican/Southwest foods, and the rising nutritional awareness of consumers. The proportion of Hispanics in the U.S. population increased 53 percent during the 1980's and is expected to increase 36 percent in the 1990's. Today, people of Hispanic origin account for 10 percent of the U.S. population—up from 6 percent in 1980. The Census Bureau estimates that by the year 2020, Hispanics will account for about 15 percent of the U.S. population.

Domestic per capita consumption of dry beans had peaked during World War II, at 11 pounds per person. Per capita consumption then underwent a long-term steady decline that bottomed out in the early 1980's at 5.1 pounds. Since then, U.S. per capita consumption of dry beans has risen to an estimated 7.8 pounds in 1997. However, annual gains in recent years have been smaller, and growth in domestic per capita use may be losing steam.

Several factors in this recent apparent slowdown include the expanding economy, and rising incomes that have encouraged consumers to switch to more expensive sources of protein. Another could be the maturing of the Mexican/Southwest

Acreage Abandonment Up

In 1997, 9 percent of dry bean acreage in the U.S. was abandoned, compared with a 6-percent average since 1970. The largest acreage abandonment during this period was in 1993, when 13 percent of dry bean acreage was lost due to various weather anomalies. Since 1980, dry bean acreage abandonment has trended upward. Average abandonment during this period has been 7 percent, compared with the 1970's average of 4 percent.

One reason for the upward trend in acreage abandonment may be the rising use of Federal crop insurance. Since 1980, the amount of insured dry bean acreage has steadily increased. This has allowed growers to occasionally cut losses during crop disasters by abandoning insured fields they may have previously harvested when the crop was uninsured. A producer's decision to abandon the crop would be based on the expected indemnity payments relative to market returns minus harvesting costs (assuming that no other variable costs are outstanding). If the expected indemnity payments were higher, the producer would generally prefer not to harvest and market the crop.

If a dry bean crop is insured, the decision to abandon does not rest solely with the producer. Approval must be received from an adjuster with the insurance company. The adjuster's incentive is to see that as much of a crop as possible is harvested, because harvested product would reduce the amount of the indemnity paid out. In certain situations the grower might choose not to abandon the crop because an abandoned crop results in zero yield for that year. This would diminish insurance coverage in future years because the previous years' yields are used to determine premium costs and eligibility to receive insurance.

food phenomenon, as a similar stabilizing trend is occurring with chile pepper use.

Despite the apparent slowdown in dry bean consumption, the fundamentals of future market growth—population trends, health consciousness, low product cost—still suggest increases in the coming years. However, new promotions or new products that capture and hold the attention of the American consumer will have to be developed to continue expansion of the domestic market. Without significant gains in the domestic market, future growth in the industry will fall squarely on developing export markets in an

increasingly competitive world arena.
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Commodity Spotlight



Jack Harrison

Corn Output Stable, Demand Prospects Strong

The 1997 corn harvest is heading into high gear, with the crop size pegged close to last year's but in a dramatically different market setting. Last year at this time, corn supplies were virtually exhausted across most of the country, and users were paying hefty premiums to procure the first new-crop corn coming out of the southern states. In contrast, the market this fall is relatively calm, with supplies more abundant and prices fairly stable. Supply concerns are beginning to fade, and attention in the months ahead will increasingly focus on demand developments.

Over the course of the 1996/97 marketing year, which concluded at the end of August, a large U.S. corn crop eased the extremely tight domestic supply situation that had pushed prices to record highs, and large foreign crops provided additional relief. The limelight shifted largely to the soybean market, where strong demand and tight supplies, as with corn in the previous year, boosted prices.

Very strong soybean prices relative to corn presented tremendous incentives this

past spring to plant soybeans—the principal crop competing with corn—and farmers responded by raising soybean acreage 10 percent. Despite this strong competition, corn acreage inched up from the year before to the highest level since 1985, setting the stage for a good 1997 crop.

With much larger carryin stocks, corn supplies in 1997/98 are expected to increase 5 percent. Corn production is forecast at 9.268 billion bushels, based on crop conditions as of September 1. This is down fractionally from 1996 but, if realized, would be the fourth-largest crop on record. Because of strong prospective demand and yields slightly below trend, the 1997/98 supply outlook is relatively tight. Solid gains are expected in domestic use and exports, and ending stocks are projected to shrink, providing underlying price support.

Corn Production More Stable This Year

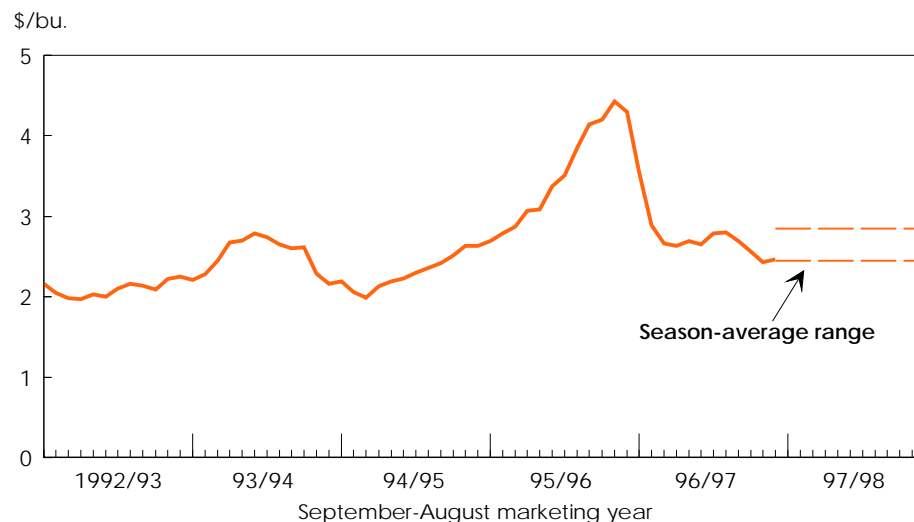
Farmers planted more than 80.2 million acres of corn this spring, up more than 700,000 acres from the previous year. The sharp gains of 1996, when corn plantings rose more than 8 million acres, were sustained on a national level, although with small shifts in the state pattern. Corn acreage outside the main Corn Belt in the

southern and Delta states slipped a bit from the strong gains of 1996 but remains comparatively large.

The large acreage partly reflects the impact of the 1996 Farm Act, which eliminated annual set-aside programs and enhanced farmers' ability to respond to market signals. The effects are quite dramatic for combined corn and soybean plantings, which reached 151.1 million acres this year, the highest since 1982 when combined plantings totaled 152.7 million, and compared with an average of 136.3 million for 1991-95.

The average corn yield is forecast at 125.2 bushels per acre, compared with the long-term trend of about 128 bushels and just below the 1996 yield of 127.1 bushels. The 1997 crop got off to a very promising start, with early plantings that are typically associated with good yield potential. Crop conditions were very favorable through June during the early stages of the crop. At that point, most traders optimistically expected a bumper crop of 10 billion bushels or more that would challenge the record high. Futures prices sank steadily, effectively taking out most of the risk premium typically attached to prices early in the summer and low prices carried over into cash markets.

Corn Price More Stable Following 1995/96 Spike



1997/98 forecast.

Economic Research Service, USDA

Commodity Spotlight

Reduced Foreign Production Boosts U.S. Export Prospects

U.S. corn export prospects in 1997/98 are improved because of lower expected production in several key competing exporting countries, especially Argentina and China. U.S. coarse grain exports are forecast at nearly 58 million tons, with the U.S. global market share rebounding to about 63 percent. U.S. exports of corn in 1997/98 are forecast at 51.5 million tons, up 13 percent from a year earlier. Corn supplies are forecast up 5 percent, mostly because of increased carry-over stocks, leaving competitively priced U.S. corn readily available for export.

World coarse grain production in 1997/98 is forecast at 882 million tons, down 2 percent from a year earlier, but larger carryin stocks have left world supplies unchanged. As a result, coarse grain prices are expected to be generally stable.

World coarse grain trade in 1997/98 is expected to exceed 91 million tons, virtually unchanged from the previous year. Most major importers are expected to maintain or increase coarse grain purchases, with the exception of Taiwan—where foot-and-mouth disease problems in the livestock sector are expected to reduce imports.

China's 1997/98 corn production has been reduced by drought and high temperatures in many major growing areas. China is forecast to produce 110 million tons of corn, nearly 14 percent less than a year ago. Because China is the world's second-largest corn producer, a drop of this magnitude can dominate the year-to-year change in world production.

China plays a key role in world corn markets as both exporter and importer. For example, in 1993/94 China exported nearly 12 million tons of corn, but imported 4 million the next year. In 1996/97, China produced a bin-buster corn crop of 127 million tons, boosted exports, and built huge stocks.

China's corn supplies in 1997/98 are projected at 151 million tons, down from last year but higher than any other year. Despite reduced production, China has continued to export old-crop stocks in 1997/98 to clear excess supplies in north

China. However, corn exports are expected to fall to 40 percent of last year's level.

Argentina and South Africa, normally major corn exporters, are expected to have reduced export supplies in 1997/98. Trend yields are assumed at this time, but production prospects are down due to reduced acreage.

With higher coarse grain production and supplies, the European Union and Eastern Europe are the only U.S. competitors expected to increase exports in 1997/98. In addition, heavy rain during wheat harvests in some regions from the United Kingdom to the Ukraine will boost the amount of wheat in Europe that is not of milling quality and may be fed to livestock. However, it is unclear how much will be exported, consumed internally, or stocked.

The forecast of increased U.S. corn exports in 1997/98 is based on supply-and-demand fundamentals, not on the pace of preseason sales. At the start of the marketing year, on September 4, according to *U.S. Export Sales*, outstanding corn sales were only 7.7 million tons, about half the level of a year ago, when sales were unusually high.

Contributing to the slower start of corn sales is more early-season competition and less concern on the part of importers about supply availability. Last summer, U.S. corn supplies were critically tight because of the short 1995 crop. Corn prices were high, and importers were worried that not enough corn would be available, so they purchased more than usual in advance. It is more reasonable to compare this year's early sales to the 1990-95 average of 7.5 million than to last year's exceptional sales.

Moreover, China and Argentina have been marketing old-crop supplies this summer, cutting into demand for U.S. corn. This competition is expected to wane as old-crop supplies are used up, and U.S. export sales are expected to increase.

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However, by mid-July, just prior to the critical reproductive stage (pollination), conditions began to deteriorate, especially in Illinois, the second-largest producing state. Corn prices began to rebound as a weather market developed, like in many other years, with traders skittishly reacting to changes in weather forecasts as well as actual events. Nationally, crop conditions worsened through most of the summer before beginning to stabilize in late August.

Over the past several years, U.S. corn production has been characterized by sharp fluctuations. In the last decade (1987-96),

the annual swing in corn production has averaged more than 2 billion bushels per year, split equally between increases or declines. Extreme weather patterns such as excessive moisture or drought were common, with a few seasons such as 1994 when conditions were near-perfect. Despite a strong underlying upward trend in yields, reflecting gains from genetic improvements and better management, there is very strong annual variability around that trend.

This year's crop stands out because output will be so close to the previous year's, and this stability is contributing to the rel-

ative calm market atmosphere this fall. The explanation for the recent stability lies largely in a break over the past 2 years from weather extremes.

Domestic Use Pegged At Record High for 1997/98

Domestic demand for corn is expected to be strong over the next year, with use projected at 7.3 billion bushels, about 100 million bushels above the 1994/95 record and topping 1996/97 by more than 300 million.

Commodity Spotlight

Feed and residual use of corn is projected to increase 5 percent to 5.55 billion bushels. Production and supplies of other feed grains will be down in 1997/98, particularly sorghum, reinforcing strong demand for corn. Strong meat exports will again support increases in meat production and feed demand. Hogs and broilers are expected to account for most growth. The cattle sector is moving toward the end of the liquidation phase caused by high feed and forage costs in late 1995 and 1996.

Food, seed, and industrial (FSI) use of corn is also projected to rise 5 percent in 1997/98 to 1.78 billion bushels. Continued recovery in corn used for fuel alcohol (ethanol) will lead growth. Although corn for ethanol use is forecast to increase 11 percent to 485 million bushels, it will not rebound to the peak level of 533 million reached in 1994/95.

Some new ethanol plants have opened in recent months, but a few plants were permanently shut during 1995/96, when industry margins were sharply squeezed. While the outlook for corn prices is fairly stable, ethanol industry margins are also dependent on product prices largely influenced by the petroleum market, along with returns generated by sales of co-products such as corn oil and corn gluten feed. Prospects for beverage alcohol have been improving, reflecting a dynamic export market. Production of beverage alcohol from corn has increased recently as some ethanol producers have added equipment in order to diversify their production mix.

Other segments of food and industrial use are forecast to continue growth in 1997/98. Use for sweeteners accounts for the largest share of FSI use. Corn demand for these other uses tends to be inelastic, and expansion has been relatively steady over the past several years, except for a small downturn in corn used for starch in 1995/96.

U.S. corn exports are projected to increase nearly 13 percent in 1997/98 because of increases in world corn imports and gains in the U.S. market share as competitor shipments decline. Exports are likely to increase, but the magnitude of the gain is subject to some doubt, due mainly to uncertainty about China's role. Despite a

major drought that overlapped important corn producing areas, China has continued to sell corn in recent weeks, mainly in neighboring Asian markets, reflecting huge stockpiles.

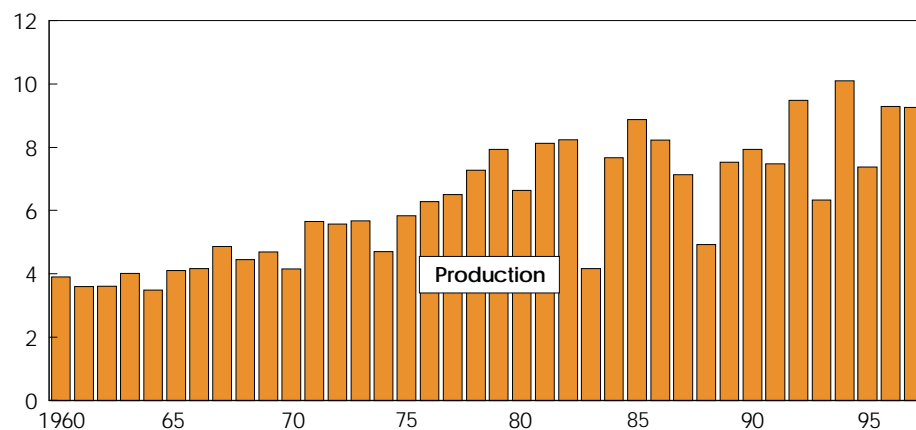
Importers have shown little urgency to buy from the U.S., not only because of exports from China but also in anticipation of a relatively good U.S. harvest. Buyers typically try to hit harvest-time lows in prices. Corn prices generally strengthen seasonally after November, but they could increase considerably depending on whether or not China curtails export sales.

Although corn supply is projected to be the highest in 3 years, strong use is expected to keep stocks relatively low. Ending stocks in 1995/96 fell to the lowest since the 1940's, at 426 million bushels, and have recovered only partially. In 1997/98, ending stocks are projected at 864 million bushels, down 77 million from the previous year, and the third straight year below 1 billion.

Given increasing use, this provides only a small cushion against contingencies. The ratio of stocks to use is projected at 9.2 percent in 1997/98, down from 10.7 forecast in 1996/97, but up from the recent low of 5 percent in 1995/96.

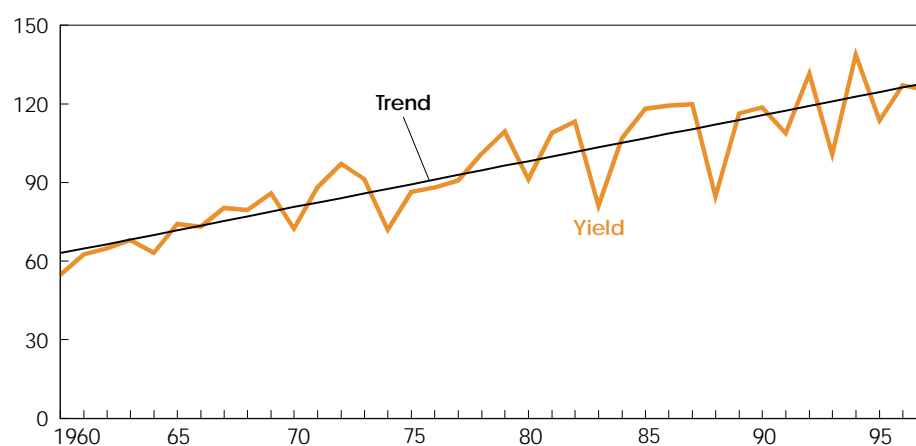
Corn Output Reflects Changes in Yields

Billion bu.



1997 forecast as of September 12.

Bu./acre



1997 forecast as of September 1.

Economic Research Service, USDA

Commodity Spotlight

Caution on El Niño

USDA is carefully monitoring the current El Niño weather phenomenon—a periodic, large-scale warming of the tropical Pacific Ocean. When an El Niño develops, it can disrupt weather patterns across the globe due to the significant ocean-atmosphere interaction.

Despite indications that the current El Niño is very strong, the implications for agricultural production are far from certain. The timing of the onset, severity, and duration of the event all contribute to its impact on agriculture. In forecasting crop production, USDA incorporates the impact of weather to date into its assessments. Given the uncertainty of weather, the forecasts assume normal weather in the period ahead. However, USDA carefully monitors weather events such as the El Niño phenomenon as they unfold.

There are some general tendencies associated with El Niño, but the intensity and timing of the effects are not perfectly predictable. The case of Australia is illustrative. Australia typically experiences severe drought in an El Niño event, cutting output of its wheat and barley crops, which are mainly harvested in the southeast in November and December. Although Australian authorities reduced production forecasts substantially this spring, anticipating heavy drought damage, rains in eastern crop areas in recent weeks were substantial enough to improve crop prospects.

So far, there are clear indications of reduced output in Southeast Asia, especially in Indonesia. Some analysts interpret a widespread drought in China over the last several months as evidence of El Niño's impact, but correlations are weak. There has also been much concern about India, where crops are also historically subject to El Niño-related drought damage, but rainfall this past summer has been adequate to forestall serious crop reductions.

For the corn market, the most critical effects are generally felt in southern Africa, where South Africa, Zimbabwe, and other countries often experience intense drought during El Niño. Corn is the region's staple food, and authorities in the region are preparing for the worst. Planting of corn is just getting underway in these regions at this time. Crop output in southern Africa will not be known with certainty until early 1998.

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Although shortages and soaring prices were very disruptive for many users in 1995/96, it is not clear if many will try to hold larger inventories for their operations in the future. As in other industries, "just-in-time" deliveries can hold down costs. Most corn processing plants are located in the heart of the Corn Belt, especially in Iowa and Illinois, facilitating this approach.

However, most of the growth in livestock and poultry production in the last decade has been outside the Corn Belt. The broiler industry is concentrated in corn deficit areas of the South and Southeast. The hog industry has expanded dramatically in North Carolina, and recently has started to grow in some western states that also produce relatively small quantities of corn. In each case, operations are critically dependent on regular shipments from

the Corn Belt, making them vulnerable to any transportation delays. It is unclear whether operations outside the Corn Belt will try to rely on just-in-time deliveries or to hold inventories.

Corn Prices To Show Little Change


The season-average price of corn received by farmers is forecast at \$2.45-\$2.85 per bushel in 1997/98. The midpoint of the forecast is slightly below the 1996/97 price of \$2.70, despite a tighter outlook. This is because the 1996/97 average was pulled up by very high prices at the onset of the marketing year, before supplies were replenished. While down from the 1995/96 record of \$3.24 per bushel, corn prices will still be relatively strong compared with the \$2.30 average of the 1990/91-1994/95 period.

Have we moved to a higher price plateau? Growers are hopeful of a repeat of the experience of the early 1970's, when corn prices advanced from a range under \$1.50 per bushel to over \$2 as world grain demand took off. Although the 1997/98 forecast is again above recent averages, it is probably unrealistic to think that prices could not fall back substantially. More favorable weather this year could have brought the price down significantly. For example, early this summer—when many expected a corn crop in excess of 10 billion bushels—new-crop elevator bids in many parts of the Corn Belt were skidding toward \$2 per bushel. Lacking program alternatives such as set-aside, corn acreage is unlikely to shrink much in the next few years.

Regardless of the final price outcome this year, corn sector income will be bolstered by production flexibility contract payments authorized by the 1996 Farm Act, which will total \$3.4 billion in fiscal 1997. These payments are intended to ease the transition to the new environment that excludes most of the government "safety net" programs. Given the nearly full participation by corn growers, the payment rate will work out to about 49 cents per bushel for eligible 1997 production, the peak year of support. Payments will decline over the remaining 5-year period.

Even without the transition payments, market-generated strength in corn prices has minimized adjustments to the new farm legislation. New approaches to risk management have attracted increasing attention in the last 2 years, but as yet there is little conclusive evidence of any major change in farmers' marketing behavior.

The fact that many corn farmers missed the record market highs of 1995/96 is likely to influence corn marketings in 1997/98. Nearly two-thirds of the 1995/96 crop was marketed by the end of January, mostly under \$3 per bushel, before huge price spikes pushed farm prices well above \$4 in the spring. As a result, many farmers may be more inclined to delay a larger portion of sales to later in the marketing year, despite added storage costs, to avoid missing out on potential price rallies.

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World Agriculture & Trade



Virginia Port Authority

U.S. Ag Exports In Fiscal '98 To Surpass '97

Fiscal 1998 U.S. agricultural exports are projected at \$58.5 billion, up \$2 billion from the 1997 forecast and second only to the 1996 record of \$59.8 billion. At \$38 billion, agricultural imports also are projected up \$2 billion, so the agricultural trade surplus will remain unchanged from the 1997 forecast of \$20.5 billion. The export value of both bulk and high-value products (HVP's) is expected to rise—HVP value is projected up \$1.5 billion over fiscal 1997, and bulk exports are expected up \$500 million.

Meat and horticultural products account for much of the increase expected in HVP exports in 1998. Another record in horticultural exports is projected, reflecting continued strong economic growth, particularly in Mexico, Asia, and South America. Larger meat exports to Japan are anticipated as Japanese consumer concern over beef safety dissipates and the emergence of foot-and-mouth disease and swine fever in Taiwan limits its exports of pork to Japan.

Bulk export volume will be pushed up by larger U.S. exportable supplies of wheat,

declining export competition for wheat and corn, and strong foreign demand for soybeans. But while corn prices remain firm, wheat prices will weaken. And for soybeans, larger crops in major soybean exporting countries will raise competition and reduce prices.

U.S. agricultural imports have set records every year since 1975. The forecast for fiscal 1998 continues this trend as agricultural imports, at a record \$38 billion, are projected 6 percent above 1997's forecast. The rate of growth in imports in 1998, however, is expected to slow from the high levels of recent seasons as prices for coffee and other tropical products stabilize or fall from their 1997 levels.

High-Value Exports Expand Again

U.S. exports of high-value products are projected up 4 percent to \$35 billion in fiscal 1998. As expected for 1997, most of the increase in 1998 will be in consumer-ready food items such as meat, fruits, vegetables, and tree nuts. But strong gains are also expected in soybean oil, an intermediate product, and some growth is expected in other intermediate products such as hides and skins.

World income growth continues to favor expanded exports of HVP. Projected growth in gross domestic product (GDP) in 1998 in countries other than the U.S. is 3.3 percent, a slight gain from the 3-percent growth estimated for 1997. Modest growth is projected for the EU and Japan, but the strongest growth continues to be in Latin America and Asia. Expansion of GDP in China, which has been the most rapid for several consecutive years, still leads the way and is projected to exceed 8 percent, down slightly from its forecast 1997 growth.

Income growth is largely responsible for the recent expanding consumer demand for meats and thus for the rapidly rising global demand for livestock feeds. This trend is expected not only to buoy demand for bulk commodities in 1998, but also to contribute to expanding exports of commodities such as soybean meal, a major feed ingredient. U.S. exports of soybean meal are projected up 500,000 tons to 6.6 million in 1998.

However, soybean meal value is projected lower due to the price-weakening record U.S. crop and strong international competition. The EU continues to be the largest importer of soybean meal, and strong gains continue to be expected there. But the percentage gains projected for Asia are larger, led by expanding demand in China.

U.S. soybean oil exports in 1998 are also expected to expand markedly, rising to 1 million tons and \$600 million compared with 1997's forecast of 800,000 tons and \$500 million. Mexico and other Latin American countries will account for much of the growth, although demand for vegetable oils also continues to expand rapidly in China.

The \$600-million gain projected for 1998 exports of beef, pork, and variety meats reflects the strong growth expected in export volume to 1.6 million tons from the 1997 forecast of 1.4 million. Japan continues to be the major importer of U.S. beef and pork, although exports to Mexico have been rising rapidly. Gains projected for Japan in 1998 reflect fading concerns about beef safety which reduced exports in 1997, and the outbreak of foot-and-mouth disease and swine fever in Taiwan which will curtail Taiwan's pork exports.

Poultry meat exports are projected to rise 100,000 tons to 2.6 million in 1998. But the export value of poultry and poultry products likely will remain relatively unchanged at \$3 billion, since exports are dominated by lower-priced parts. Russia, a big growth market for poultry exports in recent years, is expected to continue

Bulk commodities include wheat, rice, feed grains, soybeans, cotton, and tobacco. *High-value products* comprise total exports minus the bulk commodities. HVP includes semi-processed and processed grains and oilseeds (e.g., soybean meal and oil), animals and products, horticultural products, and sugar and tropical products. Appendix table 27 presents a breakout of U.S. agricultural exports and imports by major commodity group for 1996-98, for both volume and value.

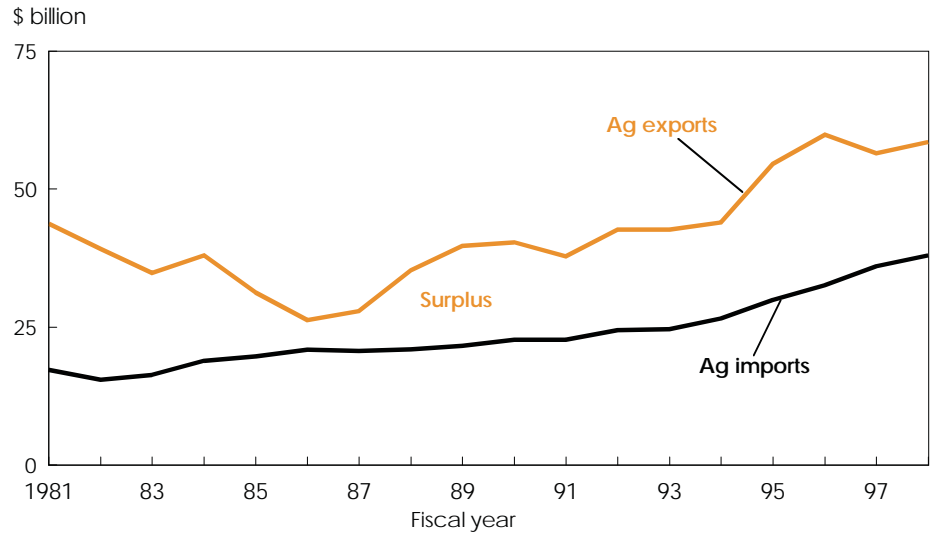
World Agriculture & Trade

levying import duties on poultry in 1998, limiting future gains there. Gains in poultry exports to Latin America, particularly Mexico, have been significant and are expected to continue in 1998.

Record U.S. exports of horticultural products are projected for 1998 at \$11.2 billion, up 6 percent. Gains of \$100 million each are expected for fruits, vegetables, and tree nuts, which will reach \$3.5 billion, \$2.7 billion, and \$1.4 billion. Growth in 1998 is expected to equal the 1997 gain.

In 1997, oranges and apples are leading the fruit export growth. Orange exports are expanding to Hong Kong and South Korea, while increased apple exports are going to South America, the Middle East, and Southeast Asia. Tomatoes and lettuce, particularly to Canada, show the largest growth among the vegetables exported so far in 1997. Wine and essential oils account for much of the remaining growth estimated for both 1997 and 1998. HVP sales to Canada have benefited from the progressive lowering of duties, while growth in sales to Asia and Latin America reflects demand growth driven by economic development and expanding incomes.

U.S. Ag Trade Surplus to Be Unchanged in 1998



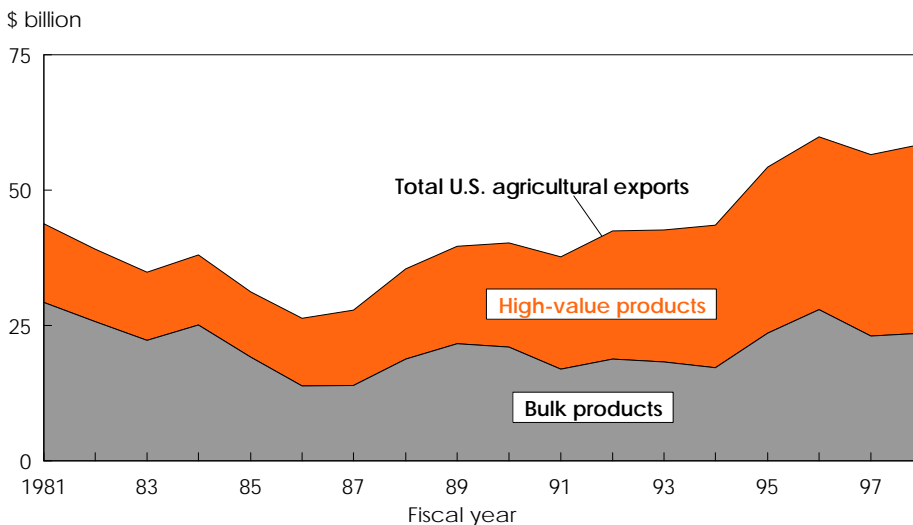
1997 forecast, 1998 projected.
Economic Research Service, USDA

Bulk Export Volume To Rebound in 1998

Initial forecasts for fiscal 1998 place the volume of bulk commodity exports (wheat, rice, coarse grains, soybeans, and cotton) at 118.5 million tons, a 14-percent or 15-million-ton gain from the 1997 forecast. The value of fiscal 1998 bulk

exports is projected at \$23.5 billion, up 2 percent. Gains in bulk exports are a shift from declines of the last 2 years. In fiscal 1997, bulk export volume is expected to reach only 103.5 million tons, 13 percent below 1996. And in 1996, bulk exports were 6 percent below 1995, when a large surge in bulk product shipments had catapulted total volume figures to a record 169.7 million tons.

HVP and Bulk Ag Exports to Rise in 1998



1997 forecast, 1998 projected.
Economic Research Service, USDA

Wheat, corn, and soybeans account for much of the gain expected in bulk exports in fiscal 1998. U.S. wheat and flour exports are projected at 30.5 million tons and \$4.6 billion, a 28-percent increase in volume and a 15-percent gain in value from 1997's forecast. U.S. exports will benefit from smaller exportable supplies of major export competitors—Canada, Australia, and Argentina—where production will drop in 1997/98 in response to poorer growing conditions and recently lower prices. And reduced production in Morocco, Algeria, and Tunisia in 1997/98 will raise import demand in these countries again.

Rice export volume is also projected to rise nearly 8 percent to 2.7 million tons on the strength of a larger 1997/98 U.S. crop. But the increased rice production will likely reduce prices, leaving the forecast of export value unchanged at


\$1 billion. Rice import demand is projected to rise in 1998 in Indonesia, China, Brazil, and Iran, all large importers. Drought in parts of Southeast Asia and Central America, as well as torrential rains in northwestern South America, may enable the U.S. to capture additional market share in both South America and Southeast Asia.

Coarse grain exports are projected up 6 million tons and \$600 million to 58.2 million tons valued at \$7.5 billion. Corn accounts for all the increase, as little change is expected for the other coarse grains. China increasingly consumes a growing share of its own production, exporting less and reducing international export competition. A smaller 1997/98 corn crop in Argentina, along with lower barley production in Canada and Australia, may also help reduce export competition. And strong global feed demand, as livestock industries expand worldwide, continues to support coarse grain exports.

Soybean exports also are benefiting from the strength of global feed demand. U.S. soybean exports in fiscal 1998 are projected up 2.3 million tons to 26 million. But

large crops in Argentina and Brazil, as well as the U.S., are expected to push prices down, lowering export value by \$800 million to \$6.1 billion for fiscal 1998. However, despite larger production, South American soybean export competition is expected to be about unchanged. Argentina continues to promote exports of soybean meal rather than soybeans, so its 1998 exports of beans are expected to show only modest gains. And although Brazil is estimated to have more than doubled soybean exports in 1996/97 due to elimination of an export duty on raw commodities, it is projected to shift back toward greater exports of meal and less of beans again in 1997/98.

Fiscal 1998 U.S. cotton exports are forecast at 1.6 million tons, the same as in 1997, reflecting fairly flat U.S. supplies. But continued strong global demand, coupled with declining U.S. and foreign stocks, is expected to push export value up to \$2.8 billion. Mexico and other Latin American countries are likely to continue as important destinations for U.S. cotton. And U.S. exports to Southeast Asia could rebound in 1998 as the region's imports increase; but exports to China are likely to decline as China relies increasingly on its own supplies.

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October Releases—USDA's Agricultural Statistics Board

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

October

- 1 *Broiler Hatchery*
- 2 *Dairy Products*
- 3 *Egg Products*
Poultry Slaughter
Cheddar Cheese Prices
- 6 *Crop Progress (after 4 pm)*
- 8 *Broiler Hatchery*
Vegetables
- 10 *Cotton Ginnings (8:30 am)*
Crop Production (8:30 am)
Cheddar Cheese Prices
- 14 *Crop Progress (after 4 pm)*
- 15 *Broiler Hatchery*
Milk Production
Turkey Hatchery
- 17 *Cattle on Feed*
Cheddar Cheese Prices
- 20 *Cold Storage*
Crop Progress (after 4 pm)
- 21 *Chickens & Eggs*
- 22 *Broiler Hatchery*
- 23 *Catfish Processing*
- 24 *Cotton Ginnings (8:30 am)*
Livestock Slaughter
Cheddar Cheese Prices
- 27 *Crop Progress (after 4 pm)*
- 29 *Broiler Hatchery*
Catfish Production
Peanut Stocks & Processing
- 31 *Rice Stocks (8:30 am)*
Agricultural Prices
Cheddar Cheese Prices

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A special report on fast-track authority

Farm Finance



Jack Harrison

Farm Families To Benefit from New Tax Law

Most farmers will pay less Federal income tax, and farm families will find it easier to transfer the family farm across generations, under the Taxpayer Relief Act of 1997. The new law—the tax portion of recent legislation to balance the Federal budget by 2002—emerges from years of debate on proposals for tax simplification, broad tax reduction, and targeted capital gains and estate tax relief. The result should be a net tax reduction for all Americans of \$95 billion over 5 years.

A number of general and targeted tax relief provisions will significantly reduce Federal taxes for farmers and other rural residents. Farmers are expected to save over \$1.6 billion per year in Federal income taxes and between \$150 and \$200 million in Federal estate taxes.

New tax credits for households with children, incentives for education and retirement savings, and lower capital gains taxes will help reduce income taxes for many families—farm and nonfarm alike. Farmers will also benefit from several provisions for dealing with income fluctuations across several tax years. Capital

gains provisions are expected to expand agricultural investment and increase farmland prices. Federal estate tax provisions will be especially important for farmers and other small business owners who hold significant amounts of their wealth in business assets. By substantially increasing the value of farms or other businesses that can be transferred tax free, the new tax law reduces the likelihood that a farm or its assets will need to be sold to pay estate taxes.

Provisions for Income Tax Relief

A variety of targeted income tax relief provisions included in the Taxpayer Relief Act will affect many farmers and their households. General provisions providing tax relief for households with children, education, and health insurance for the self-employed will have the most widespread effect. One-third of all farm families will qualify for a new *tax credit for households with children* that allows taxpayers to directly reduce their income tax by \$500 (\$400 in 1998) for each qualifying, dependent child under the age of 17. While the credit is generally nonrefundable, taxpayers with three or more children may receive a refund. On joint returns, the credit is reduced if income exceeds \$110,000. In the aggregate, qualifying farm families will receive an estimated \$600 million per year in benefits, about \$800 per family on average.

Two new nonrefundable tax credits provide *incentives for higher education*—a Hope Scholarship Credit of up to \$1,500 during each student's first 2 years of college, and a 20-percent Lifetime Learning Credit up to \$2,000 annually (by 2003) for each taxpayer. Up to \$2,500 of student loan interest (\$1,000 in 1998) becomes deductible, and new Education IRA's will allow \$500 in contributions per child. Although the contributions are nonrefundable, tax-free distributions from those IRA's will be allowed for qualified education expenses.

All of these education incentives are reduced or eliminated for high-income taxpayers. But farm families with incomes under the limits, especially those with children at or near college age, will benefit along with other qualifying taxpayers.

Of particular benefit to farmers are the changes in the *health insurance deduction for the self-employed*, intended to bring small business owners into line with employees receiving employer-deductible health insurance. Nearly 40 percent of those whose primary occupation is farming, and 20 percent of *all* farmers, use the self-employed health insurance deduction.

In 1997, self-employed taxpayers may deduct 40 percent of family health insurance costs. The new law gradually increases the deduction to 100 percent by 2007, up from the 80 percent scheduled under prior law. About 400,000 farmers will be able to deduct more of the \$1.2 billion they currently pay for health insurance. As a result, farmers' net annual cost of buying health insurance will eventually be reduced an additional 10 percent.

The Taxpayer Relief Act provides some new opportunities for retirement savers that may be of value to farm households, particularly those who already take advantage of *IRA provisions*. The act creates "Roth IRA's," which allow tax-free distributions after 5 years if the holder reaches age 59½, dies, or becomes disabled. Contributions to these IRA's are nonrefundable and are reduced for couples with more than \$150,000 in income and individuals with over \$95,000. Nearly all farms will qualify under these income limits.

An estimated 300,000 more farm households will become eligible to make deductible IRA contributions, as the income limits that restrict deductible contributions by taxpayers also participating in employer-sponsored pensions will double by 2007. Income limits for spouses of active participants are even higher. The \$2,000 annual contribution limit remains, but penalty-free distributions are allowed for higher education and first-time home buyers. Despite broad eligibility, however, only about 9 percent of farmers contribute annually, so these new provisions may not significantly increase retirement savings for many farm households.

In any year, 35 percent of all farm sole proprietors report *capital gains*, about three times the frequency for all taxpayers. Capital gains, including the profits from selling farm assets such as livestock

and land, accounted for 13 percent of farmers' total taxable income in 1993. Provisions in the Taxpayer Relief Act reduce capital gains taxes.

For capital assets owned at least 18 months, the former 28-percent maximum rate is reduced to 20 percent and the 15-percent rate to 10 percent. For assets acquired beginning in 2001 and held at least 5 years, the maximum tax rate will be reduced to 18 percent. For individuals taxed in the 15-percent bracket, the maximum falls to 8 percent in 2001, regardless of the purchase date. When fully implemented, reduced capital gains tax rates are expected to save farmers an estimated \$725 million each year.

The act also allows a taxpayer to exclude up to \$250,000 (\$500,000 if filing a joint return) of gain on the sale of a principal residence, replacing the provision that allowed the rollover of capital gain into the purchase of a new residence and the \$125,000 exclusion for taxpayers over 55. Farm residences represent 12 percent of total farm value and will qualify for the principal residence exclusion.

Economic incentives to buy and manage assets that generate capital gains have important implications for asset prices and farm output. With lower capital gains tax rates, both farm and nonfarm investors will likely increase agricultural investment, especially in livestock and land. A temporary increase in the availability of land for sale may occur as owners who had been waiting for reduced capital gains tax rates release their land for sale. In the long term, farmland values are expected to increase from such additional investment, and some farm product prices may fall if greater investment increases production.

Provisions in the new tax law that reduce tax burdens when income fluctuates from year to year will benefit some farmers. The 1997 act restores farmers' ability to use *deferred payment contracts* without being subject to alternative minimum tax (AMT), a tax designed to prevent high-income taxpayers from avoiding taxes by using exclusions, deductions, and credits. Farmers are allowed to reduce current income taxes by selling assets in one year

and waiting until another year to receive income. But the Tax Reform Act of 1986 did not permit farmers to defer such income when computing AMT. As a result, up to 5 percent of all farms, many of them large cash grain farms, faced higher taxes. The 1997 change relieves about 200,000 farms from tax preparation complexities involved in determining whether they were subject to the AMT, and reduces taxes by \$150 million annually.

Selling livestock because of weather disasters can also create problems by inflating farm income in the current tax year. The Taxpayer Relief Act expands existing special treatment of livestock sales due to drought to include floods and other weather-related conditions. Farmers who prematurely sell livestock because of weather conditions may defer declaring such income for taxes until the following year. The farmer must show that under normal business practices the sale would not have occurred until the following tax year and that weather conditions caused the area to be eligible for Federal assistance. Gain from selling more breeding or dairy livestock than would have been sold can also be deferred by purchasing similar livestock within 2 years. Because the change is retroactive to the beginning of 1997, it will be available to farmers affected by flooding early in the year.

Income averaging for all taxpayers ended after the Tax Reform Act of 1986, but the 1997 act allows farmers to average income during tax years 1998-2000. A farmer may elect to shift an amount of farm income, including gain on the sale of farm assets except land, to the preceding 3 years, one-third to each year, and pay tax at the rate applicable in each year. If the marginal tax rate was lower during one or more of the preceding years, a farmer may pay less tax. Because the current tax rate structure is flatter and the provision applies only to income from farming, fewer farmers will benefit from this provision than from the averaging provision available prior to 1986. Farmers, mostly those who rely on farming as their primary source of income, are expected to save about \$50 million per year.

Estate Tax Changes May Ease Farm Inheritance

Over the years, increasing farm size and appreciating land values have increased farm estate values and taxes. In the 1970's, Congress enacted two special provisions out of concern that Federal estate taxes might force some family farms to liquidate: *special use valuation*, which allows farmland to be valued at its farm value rather than its fair market value, and *installment payment of estate taxes*, which permits tax payments over a 14-year period rather than in full within 9 months of a death.

Despite the availability of special use valuation, a relatively large share of farmers continues to owe estate tax—an estimated 6 percent of farm estates owe Federal estate taxes compared with just over 1 percent of all estates. Changes to Federal estate and gift tax laws in the 1997 act were targeted primarily to farms and small businesses.

Whether an estate is required to file a return and pay Federal estate taxes is determined largely by the *unified credit provision*, which sets the basic level of estate value exempt from taxation. Prior to the 1997 act, the credit was sufficient to offset the tax on the first \$600,000 of an individual's estate. Since the credit has not been changed since 1987, its real value has declined by about one-third. The 1997 act gradually increases the credit to shield \$1 million from estate taxes by 2006, although most of the increase occurs in the last 3 years. Increasing the unified credit will reduce both the number of farm estates required to file an estate tax return and the number that owe Federal estate tax.

Beginning in 1998, the Taxpayer Relief Act creates an *additional exclusion for farms and other family-held businesses* that will exempt from estate taxes \$675,000 of value in a qualified family-owned business. Although the exclusion is in addition to any benefits from special use valuation and the unified credit, the total amount excluded by this provision and the unified credit is limited to \$1.3 million.

Farm Finance

The new exclusion will reduce the number of taxable farm estates by about 40 percent and reduce Federal estate taxes due on farm estates by about one-third—between \$150 and \$200 million. Combined with other 1997 changes to Federal estate tax provisions, the new exclusion should reduce, if not eliminate, the need to sell farm assets to pay Federal estate taxes.

The act also directly addresses the liquidity problem often faced by farms and other small businesses that hold significant amounts of their wealth in the form of business assets, by making *changes to the installment payment provision*. The installment payment provision of the tax code allows a qualifying farm or business to pay estate taxes over a period of 14 years, with only interest due for the first 4 years. The 1997 act reduces the interest rate due on the first \$1 million in qualifying assets from 4 to 2 percent, and no longer includes the value of assets shielded from tax in determining the first \$1 million. The act also reduces the interest due on amounts above \$1 million to only 45 percent of the rate assessed for underpayments of tax. Interest is no longer deductible for either estate or income tax purposes.

Beginning in 1999, the \$1 million value will be indexed for inflation. These changes, combined with the increase in the value of property that can be transferred tax-free, should greatly reduce the liquidity problem that some farm heirs might otherwise experience as a result of Federal estate taxes.

Also changed is the *special use valuation provision*. Beginning in 1999, the \$750,000 cap on reduction in value for

tax purposes allowed by this provision will be indexed for inflation. The cap has not been changed since 1981. Only about 10 percent of farms electing special use valuation are affected by the cap, primarily larger farms near urban areas where development pressure is greatest. Adjusting the cap for inflation will ensure that most farms continue to be unaffected by the cap.

The 1997 act also refines the requirement that farmland benefiting from the special use provision be used in farming by the heir for a period of 10 years. Under previous law, the cash rental of specially valued property other than from a surviving spouse to a family member did not qualify as continued farming by the heir since the heir no longer bore the financial risk of farming the property. Under the amended law, a lineal descendant of the decedent will be allowed to rent specially valued property for cash to a family member as long as that family member continues to operate the farm. This will provide greater flexibility for heirs under the special use value provision yet remain consistent with the objective of restricting benefits to families that continue to farm.

Finally, the act expands the estate tax benefits available to landowners who donate a *conservation easement*. A Federal estate and gift tax deduction was already allowed for the donation of a permanent restriction or easement on the use of real property to a charity or other qualifying organization exclusively for conservation purposes.

A conservation purpose includes preservation of land for the general public's outdoor recreation or education, preservation of a natural habitat, and preservation of


open space for the scenic enjoyment of the general public or in support of a governmental conservation policy. The Taxpayer Relief Act allows an additional exclusion from estate and gift taxes of up to 40 percent of the value of the land on which the easement is donated if it is located within 25 miles of a metropolitan area or a national park or wilderness area, or within 10 miles of an Urban National Forest.

To qualify for the new exclusion, land must have been owned by the decedent or a member of the decedent's family for at least 3 years prior to the date of death, and the contribution must have been made by the decedent or the decedent's family. The exclusion is based on the value of the property after the conservation easement is placed and does not include any retained development rights to use the land for any commercial purpose other than farming. The maximum exclusion is limited to \$100,000 in 1998 and increases to \$500,000 in 2002 and thereafter.

This new exclusion will provide additional incentives for landowners to donate a conservation easement within designated areas. However, given the increase in the value of property that can be transferred tax-free to heirs under the 1997 act, the number of landowners who could benefit from the additional exclusion may be relatively small. In addition, geographic targeting that limits this benefit will also limit the pool of potential donors.

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Watch for . . .

The Outlook for Farm Income

**. . . in an upcoming issue of
*Agricultural Outlook***

Resources & Environment



Natural Resources Conservation Service, Iowa

New CRP Criteria Enhance Environmental Gains

Among its many provisions, the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Act) continued the Conservation Reserve Program (CRP) up to a maximum of 36.4 million acres through the year 2002. Results suggest that the farmland acres accepted in the 15th signup, the first major CRP signup under the 1996 Farm Act, will provide greater environmental benefits and cost 22 percent less than the CRP historically.

As a voluntary agricultural land retirement program, the CRP provides participants with an annual per-acre rent and half the cost of establishing a conserving land cover—usually grass or trees—in exchange for retiring highly erodible and/or environmentally sensitive land from production for 10-15 years. The 15th signup, conducted in March 1997, was the largest CRP signup ever. Landowners and operators offered 23.3 million acres for enrollment, and USDA accepted 16.1 million. Acceptance was based on the ranking of offers using an environmental benefits index (EBI).

USDA will hold a 16th signup during October 14-November 14, 1997. Among the lands eligible are most of the approximately 10 million acres of existing CRP contracts not enrolled in signup 15 and scheduled to expire in 1997, 4.8 million existing CRP acres expiring in 1998, and other eligible acres not currently in the CRP. As in the 15th signup, EBI rankings will determine which offers will be accepted. However, in response to comments about the EBI, certain factors were modified by an interagency task force consisting of several USDA agencies, the Environmental Protection Agency, and the U.S. Fish and Wildlife Service.

15th Signup Rules Expanded Eligible Acres

In early 1997, USDA finalized rules for the long-term future of the CRP “to cost-effectively target the CRP to more environmentally sensitive acreage” (*Federal Register*, February 19, 1997). The new rules expanded the universe of eligible lands to more than 240 million acres, approximately 65 percent of U.S. cultivated cropland, compared with about 100 million acres of highly erodible cropland eligible in 1985 when the CRP began. The additional eligible lands were mostly cropland in national and state environmental priority areas, cropland adjacent to water bodies, cropped wetlands and adjacent upland, and cropland subject to conservation compliance but not formerly eligible under CRP erodibility criteria.

Producers who wished to enroll eligible land into the CRP, including eligible acres from the 21.4 million under CRP contracts then scheduled to expire in 1997, were given the opportunity to submit offers in

the 15th signup. As in earlier signups since 1991, offers were competitively ranked using an EBI. The EBI for the 15th signup was the sum of six environmental factors and a government cost factor.

Taking into account the 36.4-million-acre statutory enrollment limit, the 32.8 million acres remaining in the program at that time, and the then-impending expiration of 21.4 million acres later in 1997, USDA was authorized to enroll up to nearly 25 million acres. On May 22, USDA announced acceptance of 16.1 million acres of the approximately 23.3 million offered by producers for the 15th signup. To help determine overall acreage acceptance, USDA compared the EBI scores of the 15th signup offers to EBI scores of eligible acres likely to be bid over the next several years, and analyzed the costs and environmental benefits of progressive enrollment increments.

The establishment of 259 as an EBI cutoff for the 15th signup resulted in the acceptance of 16.1 million acres, which met the statutory 25-percent-per-county enrollment limitation. Changes in the EBI (discussed below) will likely result in a different cutoff value in future signups.

Of the acres accepted in the 15th signup, 4.4 million represented new acres not formerly enrolled in the program, and 11.7 million represented acres in CRP contracts then scheduled to expire in 1997. About 55 percent of existing CRP acres expiring in 1997 were re-enrolled, typically with planned improvements in vegetative cover for wildlife and reduced annual rental costs. The regional distribution of accepted acres was similar to the historic CRP except for small reductions in the

Over Half of Eligible Acres in 15th Signup Are Highly Erodible Lands

Land category	Eligible acres
	Million acres
Highly erodible cropland	142
Cropland in national priority areas	86
Cropland in state priority areas	24
Cropland adjacent to water bodies	13
Cropped wetlands and adjacent upland	8
Pastureland adjacent to water bodies	NA
Total CRP land eligibility *	240

NA = Not available.

* Excludes minor categories of eligible land and double-counting of acres falling into more than one category.
Source: Economic Research Service, based on Farm Service Agency analysis, USDA.

Resources & Environment

The 15th CRP Signup: Environmental Benefits Index

A national environmental benefits index (EBI) has been used to prioritize and rank CRP offers since the 10th signup in 1991. The EBI was developed consistent with section 1234(c)(3) of the Food Security Act of 1985 which provided that “in determining the acceptability of offers the Secretary may take into consideration the extent to which enrollment of the land that is the subject of the contract offer would improve soil resources, water quality, wildlife habitat, or provide other environmental benefits.”

The EBI, which is currently the sum of six ranked environmental factors plus a cost factor, was developed by an inter-agency task force consisting of several USDA agencies, the Environmental Protection Agency, and the U.S. Fish and Wildlife Service. The EBI is not meant to be a rigid index over time, but may be adjusted and improved depending on the progress of signups, perceived deficiencies, and/or changed priorities.

When a CRP offer is submitted, USDA's Natural Resources Conservation Service provides objective data for each of the EBI factors for the associated land. At the close of a signup, the data for each offer are centralized and the EBI for each offer is consistently calculated. Each is then nationally ranked in comparison with all other offers, and those with the highest EBI's are accepted.

States also have the option of developing their own ranking factors to address particular concerns. In this case, the state receives an acreage allocation based on the national EBI ranking process, but actual acceptance within the state is based on how offers rank using the state ranking factors.

In the 15th signup, held in March 1997, the theoretical maximum EBI score was 600 points, based on the sum of the following six environmental factors and a 200-point cost factor:

- ***N1: Wildlife habitat benefits (100 points maximum).*** This factor was based on the formula $(N1A / 50) * (N1A + N1B + N1C + N1D + N1E + N1F)$.
 - *N1A (0-50 points)* corresponds to how beneficial the vegetative cover proposed by the landowner or operator is for wildlife;
 - *N1B (0-15 points)* relates to whether the offered land benefits reproduction, staging, or wintering of a Federal or state threatened, endangered, or candidate species;
 - *N1C (0-10 points)* evaluates the proximity of the offer to wetlands;
 - *N1D (0-10 points)* evaluates the proximity of the offer to other protected wildlife habitat;
 - *N1E (0-5 points)* corresponds to the size of the offer (larger contiguous blocks of land are generally more beneficial for wildlife); and
 - *N1F (0-10 points)* evaluates the ratio of upland acres to restored wetlands within the offer.
- ***N2: Water quality benefits from reduced water erosion, runoff, and leaching (100 points maximum).*** This factor was based on the formula $N2A + N2B + N2C + N2D$.
 - *N2A (0-30 points)* relates to whether the offered acres are located in a Federal or state-identified area where crop production contributes to ground water or surface water quality impairment;
 - *N2B (0-20 points)* evaluates the offer's contribution to ground water quality protection based on soil leachability, county pesticide and nitrogen leaching potential, and county population obtaining drinking water from wells;
 - *N2C (0-40 points)* evaluates the offer's contribution to surface water quality protection based on the site's sediment potential, county excess nitrogen levels, and watershed population; and
 - *N2D (0-10 points)* is based on water quality improvements associated with wetland enrollment in the offer.
- ***N3: On-farm benefits of reduced wind or water erosion (100 points maximum).*** This factor was proportional to the higher of the wind or water erodibility of the soils in the offer. The higher the erodibility, the higher the potential for erosion that can reduce soil productivity.
- ***N4: Long-term benefits of certain practices that will likely extend beyond the contract period (50 points maximum).*** This factor recognized that certain practices such as tree cover are likely to remain on the land beyond the 10-15 years of the CRP contract. Practices with the longest expected retention, such as new hardwood trees, received the most points.
- ***N5: Air quality benefits from reduced wind erosion (25 points maximum).*** This factor was proportional to the wind erodibility of the soils in the offer and the distance-weighted population that could be most affected by wind-blown dust from the land offered.
- ***N6: Benefits from enrollment in conservation priority areas when the offer significantly contributes to the priority area concern (25 points maximum).*** This factor awarded points to offers that were located within national or state CRP conservation priority areas established for wildlife, water quality, or air quality purposes—provided the points achieved for the corresponding national ranking factor (e.g. N1, N2, or N5) were at least 40 percent of the total possible points for that factor.
- ***N7: Government cost of the contract (200 points maximum).*** The scoring for this factor is not determined by the Secretary until after the conclusion of each signup. For the 15th signup, the cost factor was set at a 200-point maximum. Greater points were awarded to offers requesting lower annual rent. In addition, up to 10 points were awarded to offers with existing cover where no Federal outlay for vegetative cover establishment was required.

Lake States and Pacific regions, and small increases in the Mountain and Northern Plains regions.

The average EBI score was 307 for the acres enrolled in the 15th signup, 46 percent greater than the 210-average EBI of the historic CRP, owing mainly to improved wildlife habitat benefits and water quality benefits, and decreased rental costs due to lower bids by participants. Approximately 84 percent of accepted acres were in highly erodible fields, and nearly half of these acres had an erodibility index greater than 15. The average erodibility index for accepted acres was 16. Approximately 1.1 million of the accepted acres was devoted to new or existing trees, while most of the remainder will be covered with various grasses.

Included in the acres accepted in the 15th signup was over 790,000 acres of cropped wetland and associated acreage that will be restored, and over 652,000 acres that were enrolled in state water quality areas. Due to revised soil bid caps (the maximum annual rental amount USDA will pay a producer) and enhanced program competition, annual rental costs were reduced from an average of \$50 per acre under the historic CRP to \$39 on 15th-signup accepted acres. In addition, over 60 percent of rental payments requested by producers was below established USDA soil bid caps by an average of \$3 per acre.

The Continuous CRP Signup

Under authority of the 1996 Farm Act, USDA on September 4, 1996 began a continuous CRP signup (referred to as the 14th signup in fiscal 1997) of acreage devoted to specific practices designated by the Environmental Protection Agency. These include filter strips, riparian buffers, grassed waterways, field windbreaks, shelterbelts, living snow fences, salt-tolerant vegetation, shallow water areas for wildlife, and wellhead protection areas. These partial-field practices involve a relatively small amount of acreage, but provide disproportionately large environmental benefits over the 10-15-year contract length.

Producers wishing to enroll eligible acres devoted to these practices may do so at any time, avoiding the need to wait for an announced CRP signup period. If the producer is willing to accept no more than a maximum productivity-adjusted payment rate calculated by USDA's Farm Service Agency, these acres will automatically be accepted. In addition, special bonus payments may also be available to attract certain high-priority practices. As of April 1997, partial reporting indicated that approximately 78,000 acres had been enrolled in the continuous signup. Nearly 66 percent of these acres was filter strips or riparian buffers.

Enrollment in the continuous signup is expected to increase as attention is focused on this option through the USDA Conservation Initiative. The private sector and many state conservation agencies, in partnership with USDA, are taking steps to communicate the environmental protection benefits and producer advantages of filter strips and other practices that qualify for the continuous signup.

EBI Modified for 16th Signup

Taking into account the 36.4-million-acre CRP statutory enrollment limit, the 27-28 million acres in the program as of October—including lands enrolled in the 15th signup—and the 4.8 million acres that will expire in 1998, USDA has authority to enroll up to 13-14 million acres in the 16th signup. However, as in the 15th signup, actual acceptance likely

will be less as program managers reserve space for the continuous CRP signup and other considerations.

In response to review of the EBI used to rank offers for acceptance in the 15th signup, modifications to EBI factors for wildlife habitat, air quality, and cost in order to increase environmental effectiveness were made by an interagency task force and will be in effect for the 16th signup.

Nearly Three-fourths of Acres Accepted in 15th Signup Were Previously Enrolled in CRP

Region	Acres offered for enrollment	Accepted acres					
		Total	Formerly enrolled in CRP	Average rent	Existing or new tree cover	Wetland restoration	Average erodibility
		— 1,000 acres —	Percent	\$/acre/yr	— 1,000 acres —	Index	
Appalachian	499	349	90	55	56	0	32
Corn Belt	2,787	1,670	81	70	40	7	27
Delta	675	614	81	37	443	9	24
Lake States	1,490	637	75	52	55	40	13
Mountain	5,443	4,132	72	32	4	2	15
Northeast	100	90	71	43	3	0*	23
Northern Plains	6,026	5,050	68	36	5	724	10
Pacific	1,322	607	85	40	4	5	15
Southeast	782	585	86	37	441	1	15
Southern Plains	4,145	2,413	68	33	6	2	16
U.S.	23,269	16,147	73	39	1,058	790	16

* Northeast wetland restoration is about 100 acres.

Source: Economic Research Service, based on Farm Service Agency CRP summary tables, USDA.

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The 16th CRP Signup: Substantive Changes to the Environmental Benefits Index

Factor or subfactor	Modification	Motivation/Impact
Wildlife cover subfactor, N1a	Awards points for up to 5 different species of cover; under the 15th signup points were awarded for "mixed stands."	Provides definition and differentiation to applicants willing to adopt covers for wildlife habitat.
	Instead of awarding points based on predominance of cover, the minimum acreage of cover for scoring purposes is: 51 percent for existing covers; 70 percent for a mixture of existing and new covers; 90 percent for new covers; and 100 percent for tree practices.	Encourages enhancements to covers while recognizing the value of existing covers. An advantage to arid western states because much of the existing cover will be permitted to remain intact.
Enduring benefits factor, N4	Points for restoration of rare and declining habitat.	Rare and declining habitats are indicative of wildlife's future listing as a threatened or endangered species.
	Points for cultural resource areas (e.g., historic sites, certain tribal lands).	Consistent with a number of environmentally related and other laws recognizing historic and cultural resources.
	Points for shrub planting.	Shrub planting is a viable habitat for certain wildlife although its use under CRP has been limited.
	Points for non-CRP obligations, in order to maintain the functions of CRP practices after CRP contract expires.	Recognizes the efforts of state governments, private organizations such as The Nature Conservancy, and others.
Air quality factor, N5	Replaces factor with 3 subfactors, one of which will evaluate wind erosion impacts (which is also rescaled to achieve a fairer distribution of EBI point scores). Abandons ZIP codes in favor of county-based wind erosion and distance-weighted population subfactor.	Revision provides greater weight to rural areas. Removes soil loss tolerance which has no bearing on airborne matter.
	Adds subfactor for wind erosion soils.	Recognizes soils with a high percentage of fine material that is likely to be suspended in the air.
	Adds subfactor for air quality zones.	Evaluates areas in which agriculture impacts air quality or that are located within 50 miles of Class 1 air-quality areas (e.g., national parks with high-quality air standards).
Cost factor, N7	Adds subfactor to provide points for offers of less than the maximum rental rate for soils in the offer. Awards a point for every dollar below maximum rental rate, up to 15 points.	Could benefit producers in areas of higher cost land (such as Corn Belt and Lake States)


Source: Farm Service Agency, USDA.
Economic Research Service, USDA

Modifications to the wildlife habitat factor primarily involve adjustments to point values reflecting the wildlife benefits of different vegetative covers. In addition, a new practice (CP25) that rehabilitates degraded ecosystems has been added to encourage the restoration of rare and declining habitats.

The air quality factor has been redesigned to better reflect the offsite damages caused by cropland wind erosion. Previously the maximum score for this factor was 25 points. The maximum air quality factor

score will now be 35 points. Five of the additional points are for soils formed in volcanic or organic material that can play a large role in air quality problems in some regions. The other 5 additional points are for offers near Federal Class 1 Air Quality Areas (for example, national parks), or for offers near areas that exceed EPA's regulations on particulate matter concentrations—PM-10 nonattainment areas. These changes are expected to result in somewhat higher EBI scores in states such as Washington, Texas, and Colorado.

Previously, the cost factor awarded greater points to offers with lower absolute government cost (e.g., rental payments and cover establishment cost share). Now, in addition, producers will receive one additional point, up to a total of 15, for every dollar their bid is below USDA's maximum soil payment rate for their land. This could benefit producers in higher cost areas such as the Corn Belt and the Lake States regions.

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New Standards For Food Pesticide Levels

The Food Quality Protection Act of 1996 (FQPA) creates a new, uniform, health-based standard for allowable pesticide-related risks in food. In passing the act unanimously, Congress aimed at reducing dietary risks from pesticide residues and providing special protection to infants and children.

The act amends the two major laws regulating pesticides in the U.S.—the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA). The law also establishes a new risk assessment process and requires the U.S. Environmental Protection Agency (EPA) to review all residue tolerances against the new safety standard within 10 years.

Additional provisions define and streamline the registration of minor-use pesticides; address uniformity among state, Federal, and international residue standards; require improved data collection to support implementation of the law; and establish a program of Federal communication to consumers about the risks and benefits of pesticide use.

For a pesticide to be registered for food or feed use, a residue tolerance—the maximum allowable level for a pesticide on a specific food or feed—must be established or a tolerance exemption granted. Before FQPA, pesticide residue tolerances in raw and processed foods were set according to different rules.

Pesticide residues in processed foods came under the jurisdiction of the Delaney Clause of FFDCA, which prohibited any food additives, including residues of any pesticides, “found to induce cancer when ingested by man or animal”—essentially a zero-risk cancer standard. Pesticide residues on raw foods, on the other hand, were regulated under a different section of FFDCA, and the Delaney Clause did not apply. Residue tolerances for raw commodities were set

at levels to protect public health. Benefits of pesticide use could be considered in setting residue tolerance levels for raw commodities, but not for processed commodities.

If residues of a pesticide used on a raw commodity appeared in a processed food product, the Delaney Clause applied only if the residue concentration in the processed food exceeded the raw commodity tolerance. In the latter case, EPA would deny (or revoke) the tolerance for the processed food, and would not register the pesticide for use (or would cancel the existing registered use) on the raw commodity.

A 1992 Federal court decision requiring EPA to strictly enforce these provisions of the Delaney Clause precipitated a tolerance review by EPA. As a result, new rules revoked some pesticide residue tolerances on some food and feed products, leading to cancellation of those registered uses under FIFRA. But EPA withdrew all actions revoking tolerances under the Delaney Clause that were not final the day FQPA was signed into law, allowing those tolerances to be assessed under the new review process.

New Safety Standards for Residue Assessments

Parties to the debate that preceded FQPA over appropriate tolerance standards for pesticide residue in foods generally agreed that a uniform standard should apply to both raw commodities and processed products. But disagreement continued over whether the standard should be zero risk or negligible risk for cancer. Some scientists questioned the human cancer risk of residues found at very low levels—parts per billion or trillion.

A 1987 National Academy of Sciences (NAS) report contended that a uniform negligible risk standard would eliminate most existing dietary carcinogenic risk, while allowing low-risk chemicals to be used. The NAS report argued that strict enforcement of the Delaney Clause zero-risk standard would leave several major fruit and vegetable crops without adequate pest control options. Moreover, strict enforcement would also constrain EPA's ability to reduce dietary risks, prohibiting tolerances for pesticides with a slight

cancer risk that could be used in place of more hazardous, but not carcinogenic, materials. Required enforcement of the Delaney Clause standards, the NAS report argued, also diverted EPA resources that might address more significant public-health and environmental risks.

The FQPA defined a new safety standard for residue tolerances that would apply to both raw and processed foods. The standard is based on “a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and all other exposures for which there is reliable information.”

In setting tolerances, EPA must consider dietary exposures to a pesticide from all food uses and from drinking water, as well as from nonoccupational exposure, such as homeowner use of the pesticide for lawn care. If total risk from all currently registered uses of a pesticide exceeds the safety standard, one or more uses will have to be canceled or residue tolerances reduced, and no new uses of the pesticide registered, unless new information shows the risks to be within the standard.

Cumulative effects from other substances with a “common mechanism of toxicity”—substances which create toxic effects through similar chemical processes—are to be considered when evaluating total risk. The effects of these other substances, whether or not they are pesticides themselves, can reduce the allowable risk for a pesticide under review and result in more uses being canceled or residue tolerances reduced. EPA is in the process of defining criteria to group such substances for use in risk evaluations.

The new standard is applied differently for threshold and nonthreshold effects of pesticide residues. For threshold effects—those with an identified level of no known or anticipated harm to human health (no-effect level)—tolerances are set so that aggregate exposure to the residue will be 100 times lower than at the no-effect level. For nonthreshold effects, for which no-effect levels cannot be identified, including many carcinogenic effects, FQPA allows negligible increases in lifetime risk—currently interpreted as an

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increased cancer risk of less than 1 in a million over a 70-year lifetime.

As a result of a 1993 NAS study of the risks of pesticide exposure in the diets of infants and children, FQPA also requires EPA to ensure, with reasonable certainty, that no harm will result to infants and children from aggregate exposure. EPA must consider food consumption patterns of infants and children; any special susceptibility to pesticide exposure, including the effects of *in utero* exposure; and the cumulative effects on infants and children of pesticide residues and substances with a common mechanism of toxicity. For threshold effects, an additional tenfold margin of safety will be applied to protect infants and children, which EPA may alter only if reliable data indicate a lower margin of safety will fully protect infants and children.

EPA must review all residue tolerances—more than 9,000—against these new criteria within 10 years of FQPA enactment, giving priority to those that may pose the greatest risk. The timetable specifies 33 percent within 3 years, 66 percent within 6 years, and the remainder within 10 years.

EPA had been reviewing pesticide residue tolerances through its established reregistration process, but FQPA changed the EPA pesticide reregistration process from a one-time review to an ongoing program of periodic reviews of registered uses. EPA will coordinate the new tolerance reviews with registration reviews to the extent possible. Factors to be considered in tolerance reviews include reliability and completeness of data, the nature of any toxic effect, dietary consumption patterns of consumers and major identifiable subgroups, cumulative effects and aggregate exposure levels of consumers, and variable sensitivities of subgroups.

Prior to FQPA, the benefits of a pesticide's use (including such factors as potential changes in production, costs, and consumer prices) could be considered in residue tolerance decisions on raw commodities. Benefits of use can no longer be considered in setting *new* tolerances, but can be considered when evaluating *existing* tolerances on raw commodities or processed foods for pesticides clas-

sified as carcinogens. Carcinogenic risks from existing tolerances may be slightly higher than negligible, if use of the pesticide protects consumers from greater health risks or prevents a significant disruption in domestic food production. If necessary, these tolerances may have time limits to meet risk standards defined in FQPA.

The effects of the new limits on benefit considerations in setting tolerance levels for raw commodities should be minimal, since EPA rarely considered benefits in setting tolerances before FQPA. Many observers anticipate that few, if any, existing tolerances will be justified or modified due to benefits, because the tolerances would be identified in FQPA-mandated annual EPA consumer pesticide information pamphlets, and grower and food industry groups would be concerned about public reaction. However, benefits may serve a role in evaluating how to meet a safety standard in a cost-effective manner.

Other Provisions Address Array of Issues

Because the costs of meeting EPA's pesticide registration data requirements have caused voluntary cancellations of some existing minor-use registrations and discouraged new ones, FQPA contains provisions to streamline regulatory procedures for minor uses of pesticides. FQPA defined a minor use as the use of a pesticide on a crop of less than 300,000 acres in total, use on an animal or crop to protect public health from diseases carried by insects or animals, or a use that provides insufficient financial incentive for registration.

In the case of insufficient financial incentive, the pesticide must play a significant role in managing pest resistance or in an integrated pest management (IPM) program, or have insufficient effective alternatives, in order for the new procedures to apply. EPA has extended the deadline for data submissions to support a minor-use registration and can waive data requirements, if the waiver does not prevent a risk determination or allow potential adverse effects on the environment. To further assist in registration of pesticides for minor uses, USDA is required to

establish a matching-grant program to develop data needed for registration and reregistration of minor-use pesticides.

FQPA also included provisions affecting uniformity of safety standards within the U.S. and internationally. FQPA generally prohibits states from setting tolerances that differ from EPA tolerances, unless they are justified by compelling local conditions and would cause no food residue levels to be in violation of Federal law. States still may require that foods containing a pesticide residue carry a warning. Supporters of such flexibility, including some environmental groups, argued it is justified by the unique demographic or consumption characteristics of some states. However, many industry representatives voiced concerns about states setting regulatory standards stricter than Federal ones, maintaining such standards could burden interstate commerce; add compliance, testing, and product reformulation costs; expose firms to expensive litigation; and create international trade barriers.

To avoid constraints on international food trade, FQPA requires EPA to consider international *Codex Alimentarius* standards when determining U.S. tolerances. The international *Codex Alimentarius* Commission, sponsored by the United Nations Food and Agriculture Organization and the World Health Organization, establishes maximum residue levels for many chemicals on foods. EPA must publish a notice for public comment when departing from a *Codex* standard.

A number of FQPA provisions require interagency cooperation on IPM adoption and collection of data related to pesticide use and risk estimation. FQPA directs all Federal agencies to promote IPM, and in particular, directs USDA to work with EPA on research, demonstration, and education programs to support IPM adoption. In consultation with EPA and the Department of Health and Human Services (HHS), USDA must conduct surveys to document food consumption by infants and children and to improve collection of pesticide residue data. USDA must also collect state or regional pesticide use data for all major crops and for crops of dietary significance.

By August 1998, EPA, in consultation with USDA and HHS, must develop and annually distribute a pamphlet discussing, in nontechnical terms, the risks and benefits of pesticide residues in food. The pamphlet must cover recommendations for reducing exposure to pesticide residues while maintaining a healthy diet, EPA actions that may result in higher residue risks from certain foods, and a list of reasonable substitutes for these foods. EPA will distribute the pamphlets to large retail grocers, who may determine how to display them.

Also by August 1998, EPA, in consultation with HHS, must develop a screening program to determine if pesticides or other environmental contaminants produce estrogenic or other endocrine effects in humans. If a substance is found to have such an effect, EPA must take action to protect the public. The program must be implemented by August 1999 and reported to Congress by August 2000.

Effect on Availability Of Pesticides

With passage of the FQPA, Congress clearly expressed its concern for reducing health risks associated with pesticides. However, the implications of FQPA for the availability of agricultural pesticides, especially for minor uses, are potentially profound.

The pesticide industry and grower groups are concerned that many registered uses of pesticides will be canceled and that new uses will not be registered. In particular, they fear registrants may cancel uses for small-market crops, such as fruits, nuts, or vegetables, in order to minimize impacts on returns to the registrant.

Reductions in pest control options could ultimately lower yields or increase production costs per acre, unless new options are found. Substantial yield reductions or cost increases would result in reduced


U.S. acreage and production of affected crops, and thus higher prices, as well as regional production shifts and increased imports of those crops, and increased production of crops less affected by the FQPA. The consumer information provisions could shift demand away from "high-risk" foods, lowering their prices and raising prices of substitutes.

The overall balance between negative and positive effects of implementing FQPA is unclear, since some provisions work to increase the number of pesticide registrations, while others reduce them. Certainly, pesticide tolerances and registrations that were subject to the Delaney Clause but meet safety standards under FQPA will be retained, so that producers will not be forced to find alternatives. On the other hand, the consideration of aggregate exposure, substances with a common mechanism of toxicity, risks to infants and children, estrogenic effects, and other risk assessment provisions could result in tolerance revocations and registration cancellations.

New risk provisions for infants and children, in particular, could focus regulatory concerns on fruits and vegetables that are common in children's diets, such as apples, grapes, and corn, disproportionately reducing the number of registered materials for such crops. Moreover, the new, limited role for considering pesticide benefits in the setting of residue tolerances could increase tolerance revocations for raw commodities, although the effects should be minimal, since EPA rarely used its previous broader authority to consider benefits when setting tolerances.

The minor-use provisions of FQPA lower the costs of registering minor-use pesticides and lessen the possibility that important uses will not be registered. But this might not offset the loss of uses due to the new safety standard's aggregate exposure and other risk assessment provisions.

Currently, organophosphate insecticides, carbamate insecticides, and probable and possible carcinogens are high priorities for tolerance review. EPA and USDA will be assembling information for computing exposure, such as dietary consumption of foods, pesticide residues on food, and pesticide use information (e.g., extent of use, application rates, and timing and method of application). Such information may allow reduction of risk estimates from the worst-case level and reduce the number of registered uses lost. But development of cost-effective pest control options, including registration of new pesticides to replace those lost, will ultimately be necessary to minimize the economic impact.

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Upcoming Reports—USDA's Economic Research Service

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

October

- 1 *Floriculture & Environmental Horticulture**
- 2 *Fruit & Tree Nuts Yearbook**
- 3 *Aquaculture (3 pm)*
- 14 *Cotton & Wool Outlook (4 pm)***
- Feed Outlook (4 pm)***
- Oil Crops Outlook (4 pm)***
- Rice Outlook (4 pm)***
- Wheat Outlook (4 pm)***
- 17 *Livestock, Dairy & Poultry (12 noon)*
- 20 *Newly Independent States Update (previously Former USSR Update)**
- 21 *Agricultural Outlook**
- U.S. Agricultural Trade Update**
- 24 *Oil Crops Yearbook**

*Release of summary, 3 pm.

**Available electronically only.

Food & Marketing



Carol Morgan

Food Prices To Maintain Slow Rise In 1998

The Consumer Price Index (CPI) for food in 1998 is forecast to rise 2.5-3 percent, below the 3.3-percent increase in 1996 but close to the 2.8-percent rise forecast for 1997. The at-home component of the CPI, which increased 3.7 percent in 1996, is forecast to increase 2.5 percent in 1997 and 2.5-3 percent in 1998. The away-from-home component of the CPI, which increased 2.5 percent in 1996, is expected to increase 2.9 percent in 1997 and 2.5-3 percent in 1998.

The higher Federal minimum wage, which went into effect in fall 1996, had only a small effect on the away-from-home index in 1996, but placed some upward pressure on prices in early 1997. Another increase on September 1, 1997 of 40 cents per hour in the Federal minimum wage may place additional pressure on away-from-home prices through next year.

Competition among restaurants and fast-food establishments remained strong in 1997 and held down the full pass-through of higher wage and raw materials costs to

consumers, but additional pass-through may occur in 1998. At-home food price increases have been moderated by lower grain prices, adequate supplies of fresh fruits and vegetables, increased sugar production, and strong competition in the soft drink and prepared foods industries.

The CPI for food remained relatively flat during the first 8 months of 1997, with month-to-month increases of only 0.1 percent in both January and March, 0.3 percent in July, and 0.4 percent in August. February, April, May, and June saw no increases in the all-food price index. If these small monthly increases were annualized for 1997, food inflation would be around 1 percent for the entire year, but the month-to-month index increases for the first half of 1997 followed strong increases in the last half of 1996. For the first 8 months of 1997, the price index for all food increased 3 percent. The all-food index is forecast to increase 2.5 percent in the remaining 4 months of 1997, for an annual increase of 2.8 percent.

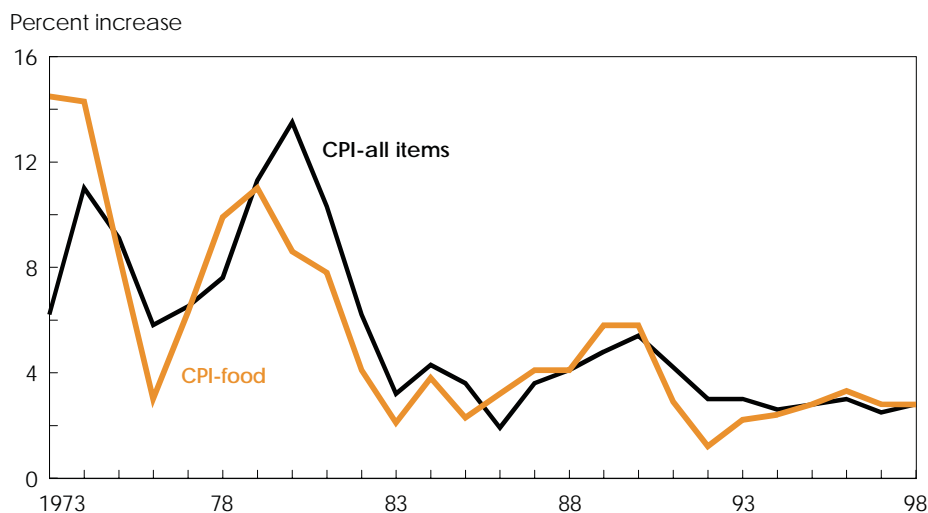
Food prices are among the most volatile consumer goods tracked by Federal agencies. General economic factors as well as the relationship between farm and marketing costs influence retail food price changes. Since 1992, food prices have held to fairly stable gains of 3 percent annually.

Four major trends account for this stability and are expected to continue to moderate price increases in 1997 and 1998.

General inflationary pressure has remained stable at about 3 percent, with expected increases in 1997 and 1998 of 2.5 and 2.8 percent, keeping in check the costs of food production as well as marketing costs—e.g., labor, packaging, transportation, and advertising—which together account for over 75 percent of retail food costs. Because *the farm value proportion of the U.S. food dollar has generally been declining*—expected to average about 22 cents in 1997 and 1998—retail prices are determined less by farm commodity prices and more by these food production and marketing costs. At the same time, *increasing economies of size in the agricultural sector* are expected to continue, particularly in the livestock and poultry industries, leading to slower growth in per-unit production costs.

Finally, *continued growth in the portion of the food dollar spent on food away from home* brings food prices more under the influence of developments in the nonfarm economy and of competition among restaurants and fast-food establishments. Currently, those influences are slowing the pace of food price increases. Growing numbers of two-income households, with

Rises in Food Prices and Overall CPI to Converge



1997 and 1998 forecasts (1998 is midpoint of forecast range).

Sources: Bureau of Labor Statistics, U.S. Department of Labor; 1997 and 1998 forecasts, Economic Research Service.

Economic Research Service, USDA

less time to prepare food at home and more income to purchase food away from home, have resulted in faster growth in purchases of food away from home than in purchases for home consumption. Away-from-home purchases are expected to account for 46-47 percent of total food dollars spent in 1997 and 1998.

Price forecasts by USDA's Economic Research Service for food consumed at home—the at-home food CPI—cover meats, poultry, fish and seafood, eggs, dairy products, fats and oils, fruits and vegetables, sugar and sweets, cereals and bakery products, nonalcoholic beverages, and other prepared foods.

Total *meat* production is expected to increase about 4 percent in 1998, compared with 1 percent this year. Next year's increase is based on recovery in pork production and continued expansion in the poultry industry. The CPI for meats is forecast to rise 2-4 percent in 1998, compared with about a 3-percent rise in 1997.

In terms of value, *beef* remains the largest single meat item purchased for at-home consumption, due to its normally higher price per pound. Although poultry has surpassed beef in total production and pounds-per-capita consumption, beef accounts for 9.5 percent of the at-home retail food dollar while poultry accounts for only 4.5 percent.

Beef prices are expected to increase 2-4 percent in 1998, following an increase of just over 2 percent expected in 1997. Beef supplies in 1998 are expected to decline, with 1998 production projected down nearly 2 percent from the output of 25.3 billion pounds forecast for 1997. Cattle inventories are beginning to stabilize and shift toward expansion, but the shift is likely to be slow and will not be fully implemented at least until 1999.

The CPI for *pork*, which accounts for over 6 percent of the at-home food dollar, is expected to rise over 5 percent in 1997, compared with a 9.9-percent gain in 1996. The 1998 forecast calls for an even smaller (0-2 percent) increase. Pork production is expected to rise 8 percent in 1998, with demand for bacon in the fast-food industry expected to continue. In 1998, produc-

Eggs, Fresh Fruits and Vegetables to Show Largest Price Increases

Consumer Price Index	Relative weights*	1996	Forecast 1997	Forecast 1998
	Percent	Percent change		
All items		3.0	2.5	2.8
All food	100.0	3.3	2.8	2.5 to 3
Food away from home	36.9	2.5	2.9	2.5 to 3
Food at home	63.1	3.7	2.5	2.5 to 3
Meats	12.4	3.5	3.1	2 to 4
Beef and veal	6.0	-0.3	2.1	2 to 4
Pork	3.9	9.9	5.2	0 to 2
Other meats	2.5	3.6	2.6	1 to 3
Poultry	2.9	6.2	2.5	2 to 4
Fish and seafood	2.4	0.9	2.9	2 to 4
Eggs	1.3	18.0	-1.4	6 to 8
Dairy products	7.8	7.0	1.9	1 to 3
Fats and oils	1.5	2.4	1.0	1 to 3
Fruits and vegetables	12.4	3.5	1.1	3 to 5
Fresh fruits and vegetables	8.5	2.8	0.4	3 to 5
Fresh fruits	5.0	7.1	0	3 to 5
Fresh vegetables	3.6	-2.0	0.8	3 to 5
Processed fruits and vegetables	3.9	5.0	2.7	2 to 4
Processed fruits	2.2	5.8	2.8	2 to 4
Processed vegetables	1.7	4.0	2.6	1 to 3
Sugar and sweets	2.1	4.5	2.9	2 to 4
Cereals and bakery products	9.3	3.9	2.2	2 to 4
Nonalcoholic beverages	4.5	-2.4	7.7	2 to 4
Other prepared foods	6.5	3.4	3.6	2 to 4

*Bureau of Labor Statistics estimated weights—expenditure shares—as share of all food, December 1996.

Sources: Historical data, Bureau of Labor Statistics; forecasts, Economic Research Service.

Economic Research Service, USDA

tion gains are expected to be partially offset by an increase in exports, about 10 percent higher than 1997 levels, with Japan likely to be the main buyer.

The 1997 food price index for *poultry*, 4.5 percent of the at-home CPI, is expected to increase about 2.5 percent, followed by a 2-4 percent increase in 1998. With demand still booming and feed costs about 15 percent lower in 1997, broiler production is forecast to total about 27.2 billion pounds this year, up 4 percent over 1996, and is expected to grow another 6-7 percent in 1998 to around 29 billion pounds.

Fish and seafood account for less than 4 percent of the at-home food CPI. Prices for major fish items increased slightly in 1997, after remaining flat in 1996. The CPI for fish and seafood is expected to register an increase of 2.9 percent for 1997, followed by a 2-4-percent rise in 1998.

Retail *egg* prices have been fairly stable in 1997, compared with last year's volatile retail prices. The CPI for eggs, less than 2 percent of the at-home food dollar, is expected to be down 1.4 percent for 1997, after increasing 18 percent in 1996. A rebound in egg prices is expected in 1998, pointing to a forecast CPI increase of 6-8 percent.

Dairy products account for over 12 percent of the at-home CPI. Lower prices for milk, cheese, butter, and ice cream have combined to produce a smaller CPI increase for dairy products in 1997—1.9 percent—compared with the 7-percent increase of 1996. Total 1997 milk production is expected to be up about 1 percent from a year earlier, and 1998 production is also expected to grow moderately. As milk production has increased, 1997 retail price increases have been smaller than the 1996 price gain. With moderate production growth expected in 1998, the dairy products CPI is forecast to increase 1-3 percent.

Food & Marketing

Price change for *fats and oils*, both highly processed foods, are influenced more by the general inflation rate than by the cost of the raw commodities from which they are produced. The CPI for fats and oils, which account for only 2.5 percent of the at-home CPI, is expected to increase less than the general inflation rate, 1 percent in 1997 and 1-3 percent in 1998.

Fresh fruits and vegetables account for a combined 13.5 percent of the at-home food CPI, while *processed fruits and vegetables* account for about 6 percent. Retail prices for a number of fresh fruits and vegetables are flat or lower this year, responding to adequate supplies of major items. No change is expected in the *fresh fruit* CPI in 1997, following a 7.1-percent increase in 1996. The *fresh vegetable* index is expected to increase by a slight 0.8 percent this year, after falling 2 percent in 1996. In 1998, both the fresh fruit and the fresh vegetable food price indices are expected to rise 3-5 percent.

Summer fruits were in abundant supply in 1997, bringing about generally lower prices and expanded export opportunities for the U.S. fruit industry. California, the largest producer of peaches in the U.S., is expected to produce another large crop in 1997. Supplies of nectarines, plums, apricots, and sweet cherries were abundant in

1997. California's 1996/97 orange and grapefruit production, sold mainly for fresh use, was larger than the previous year. Three countries—Mexico, China, and Chile—have agreed to open their markets to specific U.S. fruits beginning in 1997, which may boost demand and prices.

With stable grower prices for *fresh-market vegetables*, overall summer 1997 acreage was about the same as the year before. In spite of a January freeze in Florida and direct crop losses from heavy spring rains in Texas, consumers saw only small increases in retail prices for fresh vegetables and melons in 1997. The relatively stable price pattern for fresh vegetables is expected to continue into fall 1997. The overall fresh vegetable CPI decline in 1996 and very small increase in 1997 are due partly to low prices for potatoes. However, the possibility of a serious potato blight in Idaho may significantly reduce potato production in 1997 and start moving consumer prices upward in 1998.

Contract acreage for the five leading *processing vegetables* (tomatoes, sweet corn, snap beans, green peas, and cucumbers) was down 3 percent, to 1.35 million acres in 1997. This drop came after a 9-percent decline in planted acreage a year earlier. However, processed vegetable prices are

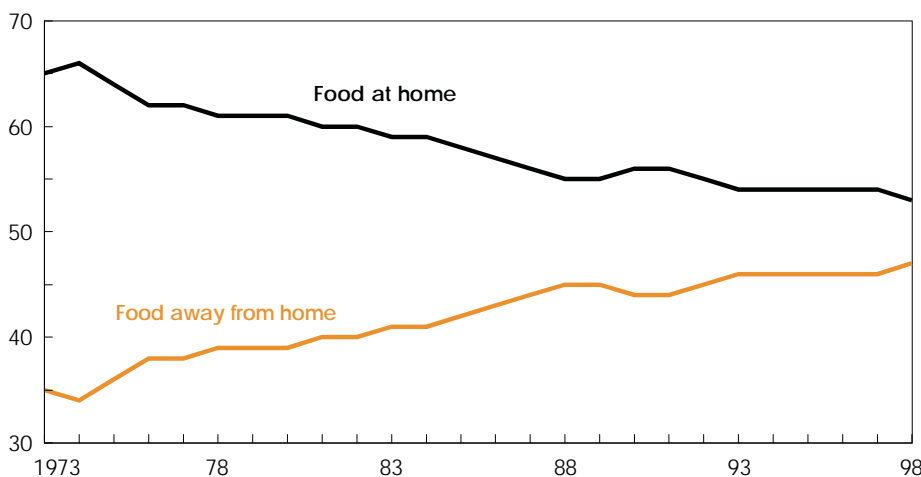
expected to increase only a modest 2.6 percent in 1997 and 1-3 percent in 1998. The ready availability of fruit supplies to meet processing needs is keeping the expected CPI increase for *processed fruits* to 2.8 percent in 1997 and 2-4 percent in 1998.

The CPI for *sugar and sweets*—3.3 percent of the at-home CPI—is expected to advance 2.9 percent in 1997, with gains of 2-4 percent in 1998. Domestic sugar production is expected to increase 3.4 percent in 1997, keeping the price increase to a modest 2-4 percent in 1998. Sugar beet acreage was up 7 percent in 1997, the result of lower returns to alternative crops, relatively strong sugar prices earlier in 1997, and increases in factory beet slicing capacity (AO July 1997).

Cereals and bakery products account for the largest single portion of the at-home food CPI—almost 15 percent. While stronger grain prices led to higher prices for selected bakery products in 1996 and a CPI increase of 3.9 percent, lower grain prices this year have held the increase to 2.2 percent. In 1998, cereals and bakery products are expected to increase 2-4 percent. Cereal prices, which account for a fifth of the cereals and bakery products index, fell 1.2 percent in 1996, and in the first 8 months of 1997 have fallen an additional 2.8 percent compared with the first 8 months of 1996.

Food Away From Home Accounts for Growing Portion of Food Dollar

Percent of food expenditures



1997 and 1998 forecasts (1998 is midpoint of CPI forecast range).

Sources: Bureau of Labor Statistics, U.S. Department of Labor; 1997 and 1998 forecasts, Economic Research Service.

Economic Research Service, USDA

Since only a small portion—less than 10 percent—of the retail price for most processed food items stems from the cost of ingredients—including flour, sugar, and oil—most of the retail price changes are the result of general inflation and competition. Competition for market share among the three leading breakfast cereal manufacturers led to retail price cuts in 1996. A recent announcement of cereal price increases by a leading manufacturer has not yet led to any significant monthly price increases in 1997.

Nonalcoholic beverages account for over 7 percent of the at-home food CPI, with coffee and carbonated beverages the two major components—32 and 50 percent of the nonalcoholic beverages index. The nonalcoholic beverage CPI fell 2.4 percent in 1996 due to lower coffee prices, and is expected to increase 7.7 percent in

What's Behind the Numbers?

Food price forecasts by USDA's Economic Research Service (ERS) are developed through a three-step process. Analysts begin with USDA's 10-year baseline projections. The baseline, published annually in February, is the product of model results and the judgments of analysts from several USDA agencies. The baseline is based on a conditional scenario with specific assumptions regarding the macroeconomy, weather, and international developments (*AO* April 1997). No economic shocks are assumed in baseline projections.

In the second step, ERS analysts develop short-term forecasts (12-18 months) that incorporate the most recent baseline assumptions and current information on market conditions and expectations, weather patterns, commodity prices and supplies, and expected consumer demand for specific foods. Finally, these short-term forecasts are checked using a computer model (ARIMA forecast), which determines whether the ERS short-term forecast falls within an expected statistical range limit (a 95-percent confidence level).

Food price forecasts for 1997 and 1998, developed using this three-step process, may still be revised if the conditions on which they are based should change significantly. Projections could be affected if changes occur, for example, in the feed grain crop outlook; in the export market, especially for meat items; in nonfarm markets; or in weather-related crop conditions in major fresh fruit and vegetable growing areas. Historical retail price data indicate fresh fruit and vegetable prices and egg prices are the most volatile food prices ERS tracks.


Historical data also indicate grain price changes have affected the price of meats, poultry, eggs, dairy products, and cereals and bakery products. Since these items account for more than half of the at-home food dollar, price changes for these categories can have a significant impact on the at-home food CPI.

1997 in the wake of higher coffee prices. During the first 8 months of 1997, retail coffee prices were up 9 percent from the same period last year. Carbonated drinks, on the other hand, fell 1.4 percent in the first 8 months of 1997, compared with the same period in 1996, due to competition in the soft drink industry during peak consumption months. In 1998, the nonalcoholic index is forecast to return to a trend increase of 2-4 percent.

Speculation about a lower 1997/98 coffee crop in Brazil (the largest Arabica coffee producer) and an uncertain labor situation in Colombia were responsible for the sharp increases in green coffee costs (mostly for Arabica used primarily in gourmet coffee blends) on the world market in spring and summer 1997. These price increases combined with low U.S. and Mexican coffee stocks to produce wholesale price fluctuations that led to higher retail prices.

However, prices of Robusta coffee beans, the primary ingredient in retail store coffee blends, have not increased as sharply as Arabica prices. Since the CPI for coffee reflects only coffee purchased in retail stores, smaller increases in Robusta prices have held down what might have been an even larger increase in the nonalcoholic beverages price index.

Other miscellaneous prepared foods, accounting for over 10 percent of the at-home food CPI, are highly processed and are affected primarily by changes in the all-items CPI. These products include frozen dinners, pizzas, and precooked frozen meats. Competition among these products and from the away-from-home food market should continue to dampen retail price increases for this category of items. An increase of 3.6 percent in the CPI for the category is expected in 1997, followed by 2-4 percent in 1998.

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Special Article



Jack Harrison

U.S. Ag Policy— Well Below WTO Ceilings On Domestic Support

The U.S. will be able to meet commitments with the World Trade Organization to reduce domestic support to agriculture without making any further changes in domestic programs through 2000, the final year of the implementation period. The ability of the U.S. to meet its WTO domestic support reduction commitments stems from two main factors that greatly reduce its current and future domestic support levels relative to the 1986-88 base period:

- WTO provisions that specified how domestic support reduction objectives would be defined and implemented, particularly the provisions regarding base period, deficiency payments, and aggregate market price support measures; and
- shifts in U.S. farm programs after 1985 toward increased market orientation and reduced subsidies.

The 1994 Uruguay Round (UR) Agreement on Agriculture requires World Trade Organization (WTO) member-countries to reduce the total amount of trade-distorting domestic support for agriculture by 20 percent from a base period (1986-88) level by the year 2000. In addition to limitations on export subsidies and import barriers, the UR trade agreement provided for restrictions on domestic support because of general concern that domestic support policies have significant indirect effects on trade.

The value of domestic or “internal” support is measured using an annual indicator—the Aggregate Measure of Support (AMS)—that was negotiated during the UR. The AMS is a specially defined measure of the monetary value of government support to agriculture. It was derived from another, more broadly defined measure of support—the Producer Subsidy Equivalent (PSE)—which provided important monitoring information about the overall level of agricultural support during the decade preceding completion of the UR.

The AMS is not designed to replace the PSE as an annual measure of support, but instead to facilitate implementation of UR domestic support reduction commitments. The AMS measures *domestic support policies* that include direct payments to producers financed by budgetary outlays, as well as revenue transfers from consumers to producers as a result of policies that distort market prices.

Domestic reduction commitments for each country, in the form of declining AMS ceiling levels, are phased in over a 6-year period, 1995-2000. During the initial year of the support reduction phase-in—1995—the AMS could not exceed 96.7 percent of the 1986-88 base AMS. This percentage limitation declines until the final phase-in year—2000—when the AMS cannot exceed 80 percent of the base value.

An AMS is calculated for each commodity and domestic policy instrument affecting agriculture, whether commodity or noncommodity-related. However, WTO reduction commitments apply only to the aggregate of the component AMS’s. Therefore, countries have considerable flexibility in deciding which domestic programs to alter in meeting aggregate commitments to reduce domestic support.

The U.S. AMS combines several component measures that are also included in the PSE concept in some form. These components are actual or calculated amounts of: 1) direct payments to producers (e.g., deficiency payments); 2) input subsidies (on irrigation water, for example); 3) the estimated value of revenue transferred from consumers to producers as a result of domestic policies that distort market prices (market price supports); and 4) interest subsidies on commodity loan programs.

One of the most significant aspects of the AMS’s construction was the *inclusion of deficiency payments* in the base period AMS and the *exemption of these same payments* from the AMS calculated for the 1995-2000 implementation period. This had the effect of establishing high commitment ceilings for the AMS—since the ceilings were derived from the base-year AMS—and then virtually guaranteeing that the future AMS levels would be below the ceilings by excluding deficiency payments from the current measures. Such payments were worth \$9.7 billion in the 1986-88 base and \$7 billion in 1995.

Excluded from the AMS, but included in the PSE, are *trade-oriented policies* that restrict imports or encourage more exports, and some noncommodity-specific policies covered by the PSE

concept that were considered by trade negotiators to be non-trade distorting (i.e., *green box policies*) such as research and inspection activities and environmental programs.

The general criteria for exempt status as a green box policy (specified under Annex 2 of the UR Agreement on Agriculture) include policies that have no, or very minor, trade or production distorting effects; are financed entirely by the country's budget and not by the consumer; and do not act as a price support. These policies are excluded from the AMS, even though they may support domestic policy objectives.

One significant *green box policy* category is called "decoupled payments"—payments that are not based on current prices or current production levels. The most notable example are the production flexibility contract payments (PFCP's) that replaced deficiency payments under the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Act).

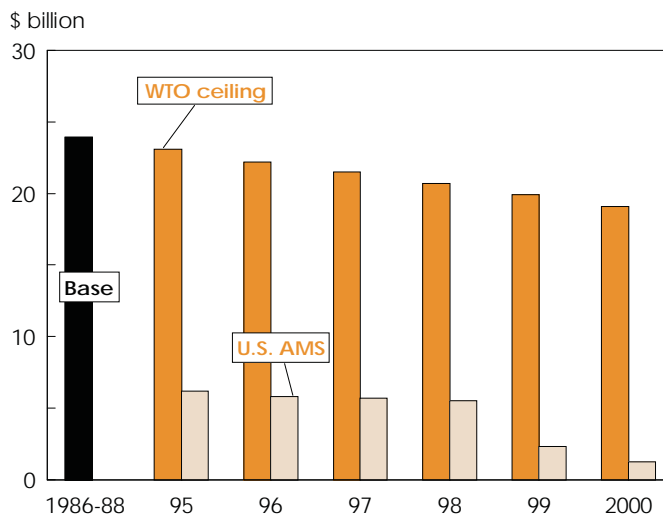
Explicit *trade-oriented policies* excluded from the AMS—e.g., export subsidies and tariff-rate quotas—are dealt with separately in the UR, most of them commodity-specific. To the extent that such trade policies reduce import supplies and/or increase exports and domestic prices, they can also affect the operation and costs of domestic programs (such as those for dairy or sugar). These supply and price effects would result from use of such trade programs even if there were no domestic support policies. As a result of the methodology used, the AMS could be very modest and decline over time, even while producers receive substantial support as a result of trade barriers or decoupled payments.

Factors Putting the U.S. In Compliance

The choice of 1986-88 as the "base period" for defining AMS reduction commitments provided a way to take the revolutionary step of disciplining domestic support programs without immediately imposing large adjustments on major players in the agreement, such as the U.S. and the European Union (EU). The base-period choice corresponded to the start of UR trade negotiations. U.S. direct payments and aggregate market price support benefits were abnormally high during 1986 and 1987, so the 20-percent reduction in support called for by the final 1994 trade agreement was an easy target to meet. The 3-year average was used to smooth out year-to-year variations in prices, production, consumption, and trade, providing more even treatment for different commodities and countries.

Exemption of deficiency payments. Further increasing U.S. ability to meet its ceiling-level commitments was the WTO provision that allowed deficiency payments to farmers for 1995-2000 to be excluded from a current-year total AMS, even though such payments were included in the base-period AMS. Article 6 of the UR Agreement on Agriculture instructs that direct payments under "production-limiting programmes" shall not be included in the current total AMS if such payments are based on fixed area and yields, or if they are made on 85 percent or less of the base

U.S. Domestic Support Level to Be a Fraction Of WTO Ceiling



Deficiency payments are included in the base and WTO ceiling calculations but excluded from actual and forecast Agricultural Measure of Support (AMS) calculations. 1995 actual, 1996-2000 forecast. Economic Research Service, USDA

level of production. U.S. deficiency payments were based on 85 percent of base acreage, and individual farm program yields had been held constant since 1986.

This special provision for deficiency payments, referred to as the *blue box provision*, benefited primarily the U.S. and the EU, and may be an issue in the next round of trade talks. However, this provision was relevant for the U.S. only for 1995, since 1996 farm legislation eliminated the deficiency payment program for all years after 1995.

The production flexibility contract payments initiated by the 1996 Farm Act increased the actual amount of support to agriculture since they replaced deficiency payments that would have been much lower during 1996-2002 based on current USDA longrun price projections. The PFCP's are excluded from the AMS because they are considered to be decoupled payments and qualify as AMS-exempt *green box policies*. The PFCP's meet the definition of "decoupled" since they are financed by the budget and have essentially been predetermined for the entire period 1996-2002—they do not depend on prices or production levels.

With *changes in U.S. commodity programs after 1985*, the level of aggregate domestic support had, by the early 1990's, already declined to less than the specified WTO-ceiling level for the year 2000. Reductions in target prices, rates paid to farmers on commodity loans, and government dairy product purchase prices decreased the level of aggregate support from deficiency payments, commodity loan forfeitures and interest subsidies, and dairy market price supports. A 15-percent reduction in the number of acres eligible for deficiency payments under 1990 farm legislation led to a further lowering of deficiency payments

Special Article

Glossary of Ag Trade Terms

Agreement on Agriculture. Part of the Uruguay Round agreement covering four major areas related to agriculture: market access, export subsidies, internal support, and sanitary and phytosanitary rules. The Agreement on Agriculture is one of 29 individual legal texts included under an umbrella agreement establishing the WTO. The agreement is implemented over a 6-year period, 1995-2000.

Aggregate Measure of Support (AMS). A specially defined measure of the monetary value of the extent of government support to agriculture negotiated in the Uruguay Round of trade negotiations that includes actual or calculated direct payments to producers (e.g., deficiency payments); input subsidies (on irrigation water, for example); the estimated value of revenue transferred from consumers to producers as a result of domestic policies that distort market prices (market price supports); and interest subsidies on commodity loan programs. The AMS forms the basis of computing and implementing domestic support reduction commitments under the UR. The AMS differs from another, broader concept of agricultural support called the Producer Subsidy Equivalent (PSE), because certain PSE policies are excluded from the AMS, and because of the methodology used to compute direct payments and market price support benefits.

Bound tariff rates. Tariff rates resulting from WTO negotiations or accessions that are incorporated as part of a country's schedule of concessions. Bound rates are enforceable under Article II of GATT. If a WTO contracting party raises a tariff above the bound rate, the affected countries have the right to retaliate against an equivalent value of the offending country's exports or receive compensation, usually in the form of reduced tariffs on other products they export to the offending country.

Blue box policies. A popular expression to represent the set of provisions in the Agreement on Agriculture that exempts from reduction commitments, those program payments received under production limiting programs—if they are based on fixed area and yields or a fixed number of head of livestock, or if they are made on 85 percent or less of base level of production. Deficiency payments were exempt under this provision, since compliance with acreage reduction programs was required for eligibility, payments were made on no more than 85 percent of established base acreage, and individual farm yields had been fixed since 1986.

Country schedules. The official schedules of subsidy commitments and tariff bindings as agreed to under WTO for member countries.

De minimis provision. The total AMS includes a specific commodity support only if it equals more than 5 percent of its value of production, and a noncommodity-specific support only if it exceeds 5 percent of the value of total agricultural output.

Deficiency payment. A direct government payment made to farmers who participated in wheat, feed grain, rice, or cotton programs prior to 1996. The payment rate was based on the difference between the target price and the higher of the loan rate or the national average market price during a specified time. The total payment to a farmer was equal to the payment rate, multiplied by a farm's eligible payment acreage and the program yield established for the particular farm. Farmers could receive up to one-half of their projected deficiency payment at the time of program enrollment. If actual deficiency payments, which were determined after harvest, were less than the advance deficiency payment, a farmer had to reimburse the government for the difference.

Final Act. Formally called the "Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations," the Final Act is the legal document containing the texts of all provisions agreed upon during the UR. The signing and adoption of the Final Act initiated the transition from the GATT to the WTO.

GATT (General Agreement on Tariffs and Trade). An agreement originally negotiated in Geneva, Switzerland in 1947 among 23 countries, including the U.S., to increase international trade by reducing tariffs and other trade barriers. The agreement provides a code of conduct for international commerce and a framework for periodic multilateral negotiations on trade liberalization and expansion.

Green box policies. A colloquial term that describes domestic support policies that are not subject to reduction commitments under the Uruguay Round's Agreement on Agriculture. These policies are assumed to affect trade minimally, and include policies related to such activities

during 1991-95. These savings were only partially offset by new spending under marketing loan and loan deficiency payment provisions begun under 1985 farm legislation.

Meeting support reduction commitments would have been relatively certain even if the domestic support provisions of 1990 farm legislation had been continued after 1995. However, the 1996 Farm Act made significant changes in commodity programs for 1996-2002 that further increased the U.S.'s ability to meet WTO commitments.

The future U.S. AMS will be greatly influenced by the phase-out of the current dairy price support program under the 1996 Farm Act, which reduces per-unit dairy price supports (effectuated by government purchases) from 1996 through 1999, and eliminates them after December 31, 1999. A recourse loan program for dairy products will then replace the current program of price supports and government purchases. The Federal Milk Marketing Order system (FMMO) will continue, as revised by the 1996 Farm Act, although its effect on market prices is not accounted for by the AMS. The FMMO probably increases

as research, extension, food security stocks, disaster payments, the environment, and structural adjustment programs.

Loan deficiency payments. A provision begun in the Food Security Act of 1985 giving the Secretary of Agriculture the discretion to provide equivalent direct payments to producers who, although eligible to receive marketing loan program benefits or to obtain price support loans for wheat, feed grains, upland cotton, rice, or oilseeds, agree instead not to obtain loans.

Market access. The extent to which a country permits imports. A variety of tariff and nontariff trade barriers can be used to limit the entry of foreign products.

Marketing loan program. Allows producers to repay nonrecourse price support loans at less than the announced loan rates plus interest whenever the world market price or posted county price for the commodity is less than the commodity loan rate plus interest. This results in the producer receiving a marketing loan benefit equal to the difference between the original loan rate (plus interest) and the repayment rate.

Nonrecourse loans. The major government price support instrument, providing operating capital to producers of wheat, feed grains, cotton, peanuts, tobacco, rice, and oilseeds. Sugar processors are also eligible for nonrecourse loans. Farmers or processors who agree to comply with each commodity program provision may pledge a quantity of a commodity as collateral and obtain a loan from the CCC. The borrower may repay the loan with interest within a specified period and regain control of the commodity. Or, the borrower may forfeit the commodity to the CCC to settle the loan without paying any of the accrued interest. (The government has *no recourse* but to accept the commodity as payment in full.) For those commodities eligible for marketing loan benefits, producers may repay the loan at the world price (rice and upland cotton) or posted county price (wheat, feed grains, and oilseeds).

Nontariff trade barriers. Regulations used by governments to restrict imports from, and/or exports to, other countries, including embargoes, import quotas, and technical barriers to trade.

Notification process. The annual process by which member countries report to the WTO information on commitments, changes in policies, and other related matters as required by the various agreements.

Producer Subsidy Equivalent (PSE). A broadly defined aggregate measure of support to agriculture that combines into one total value aggregate, direct payments to producers financed by budgetary outlays (such as deficiency payments), budgetary outlays for certain other programs assumed to provide benefits to agriculture (such as research and inspection and environmental programs), and the estimated value of revenue transfers from consumers to producers as a result of policies that distort market prices.

Production flexibility contract payments. Direct payments to farmers for contract crops through 2002 under the 1996 Farm Act. Payments for each crop are allocated each fiscal year based on fixed percentage shares specified in the act. The percentages were based on the Congressional Budget Office's March 1995 forecast of what deficiency payments would have been for 1996 to 2002 under 1990 farm legislation.

Sanitary and phytosanitary (SPS) measures. Technical barriers designed for the protection of human health or the control of animal and plant pests and diseases.

Uruguay Round (UR). The Uruguay Round of Multilateral Trade Negotiations under the auspices of the GATT; a trade agreement designed to open world agricultural markets and reduce trade distorting effects of domestic and trade policies. The negotiation began at Punta del Este, Uruguay in September 1986 and concluded in Marrakesh, Morocco in April 1994.

World Trade Organization (WTO). Established on January 1, 1995 as a result of the Uruguay Round, the WTO replaces GATT as the legal and institutional foundation of the multilateral trading system of member countries. It provides the principal contractual obligations determining how governments frame and implement domestic trade legislation and regulations. And it is the platform on which trade relations among countries evolve through collective debate, negotiation, and adjudication.

market prices, but no consensus exists on the magnitude of the price changes, which vary among the different regions and market orders. There is no observable WTO-administered price associated with the FMMO, but current benefits rely heavily on the price floor established by national dairy price supports.

The 1996 Farm Act also eliminated the farmer-owned reserve loan program and the honey and rye price support programs. Wool and mohair payments were already phased out by 1996, following a law signed in November 1993. The 1996 Farm Act

also reduced somewhat the price support levels for sugar and peanuts through administration of penalties and marketing assessments, decreased peanut support rates, and elimination of minimum marketing quotas for peanuts. And the interest subsidy on all commodity loans was decreased—producers now pay a higher interest rate. Further, most commodity loan rates are now subject to upper limits, which will reduce the amount of the interest subsidy.

Special Article

The AMS & the Producer Subsidy Equivalent

The Aggregate Measure of Support (AMS) is a combination of various commodity-specific program benefits or costs (e.g., market price support, deficiency payments, and commodity loan interest subsidies) and noncommodity-specific values (e.g., water subsidies, net crop insurance proceeds, and net livestock grazing program costs). The total value of the commodity- plus noncommodity-specific parts of the AMS is adjusted according to WTO rules by subtracting exempt deficiency payments, and individual component AMS's equal to less than 5 percent of their respective values of production.

According to ERS analysis, dairy, sugar, and peanuts are the only commodities with AMS's large enough to be counted in the total U.S. AMS during 1996-2000. Individual commodity AMS's must each have a value of at least 5 percent of their respective values of production before they are counted as part of the AMS—the *de minimis* provision of the Uruguay Round (UR). For purposes of applying the *de minimis* provision, the value of the noncommodity-specific AMS must be at least 5 percent of the total value of production of all agricultural commodities.

The AMS concept was derived from a different aggregate support measure—the Producer Subsidy Equivalent (PSE). The more broadly defined PSE provided important monitoring information about overall levels of support for different commodities and different countries during the decade preceding completion of the UR.

Although the two measures are similar in basic concept, the PSE includes support (or costs) of some policies that are left out of the AMS—such as trade policies and certain *green box policies* assumed by negotiators to be non-trade distorting. Consequently, the value of the PSE for the U.S. exceeds that of the unadjusted AMS in the 1986-88 base period by 46 percent.

Both the PSE and the AMS exclude certain “nonagricultural” programs related to natural resources (such as forestry and fishery), and rural development programs (such as for housing, communities, and public utilities). While the AMS serves a useful purpose for the trade agreement, it does not provide a meaningful alternative to the PSE as an overall, comprehensive measure of agricultural support levels.

AMS includes only domestic policies. Unlike the PSE, the AMS excludes support related to trade policies, such as the export enhancement program, valued at \$1.7 billion in the 1986-88 PSE. Such trade policies have their own separate, unique restrictions and commitments under the UR. Market price supports are considered domestic policies in the AMS, because they are implemented using announced “administered prices”—e.g., dairy, peanut, and sugar support prices.

However, import restrictions—considered to be trade policies—can and usually do support market prices by reducing supplies. Such import restrictions, when effective, reduce the cost of domestic price support programs. Further, any benefit from trade policies due to market prices exceeding administered prices is excluded from the AMS concept.

AMS excludes non-trade distorting policies. The AMS only covers policies negotiators agreed to identify as “trade distorting” policies. Non-trade distorting policies related to agriculture must nevertheless be summarized and reported to the WTO in the so-called green box table. Some of the green box policies are covered in the PSE, such as research and extension, inspection services, and disease control programs (“general services” in the green box); “disaster programs” (excluding crop insurance); Federal farm credit programs (“investment aids” in the green box); “environmental and conservation programs;” and the Conservation Reserve Program (“resource retirement programs” in the green box). Non-trade distorting policies included in both the green box and the PSE amounted to \$5.2 billion in 1986-88.

U.S. outlays for all non-trade distorting, green box policies amounted to \$46 billion in 1995, 76 percent more than in 1986-88. Most of this increase resulted from a 96-percent increase in domestic food program outlays—e.g., food stamps, which are excluded from both the AMS and PSE—which make up four-fifths of the total amount of green box outlays. Nearly all of the green box outlays not in the PSE are related to domestic food programs.

AMS measures are independent of market prices. The AMS, unlike the PSE, is not a measure of current support to agriculture because current market prices are not used to calculate the current level of market price support for dairy, sugar, and peanuts, or to calculate the level of support from deficiency payments. Instead, the AMS uses a fixed 1986-88 average world price in its calculation. Thus, the AMS reflects only the effects of changes in program variables under the direct control of the program administrators, and not the subsequent effect of changes in current market prices.

Payments related to production-limiting programs are excluded from AMS. Deficiency payments worth \$9.7 billion were included in the 1986-88 base year AMS. However, such payments were excluded from the 1995-2000 AMS's under special *blue box provisions* of the UR.

More commodities are included in the AMS than in the PSE. Commodities covered by the AMS, but not the PSE, include cotton, peanuts, oats, barley, mohair, honey, minor oilseeds, rye, and tobacco. The AMS's for these commodities in 1986-88 amounted to \$2.5 billion, or 11 percent of the total unadjusted AMS.

Domestic Support Still Declining

The U.S. is not only in compliance with WTO commitments but is well below the commitment ceilings. The U.S.'s AMS level is anticipated to average only about 20 percent of the established AMS ceilings during 1995-2000. By 1995, the total AMS for the U.S. had already fallen to only \$6.2 billion—just one-fourth the size of the 1986-88 average base-year value and well below the AMS limit of \$23.1 billion. USDA's Economic Research Service projects that by 2000, support will be only \$1.2 billion, compared with the \$19.1-billion limitation, or "ceiling," on U.S. support.

Among the factors helping to put AMS levels so low relative to the base year values are not only the subtraction of deficiency payments as explained above, but also the WTO *de minimis* rule that exempts individual component AMS's if they are less than 5 percent of their respective values of production.

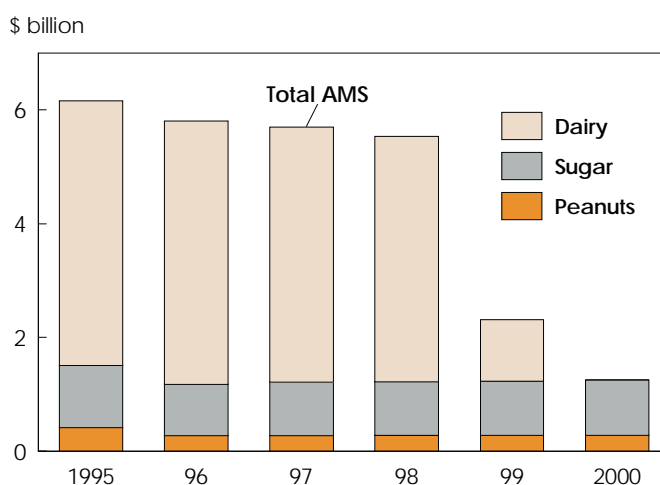
Currently, the principal components remaining in the U.S. AMS are the production levels and per-unit price supports for dairy, sugar, and peanuts, which were only partially modified under the 1996 Farm Act. Wool and mohair AMS's also are included in the 1995 AMS, but the programs no longer exist after 1995. Other commodity AMS's drop out of the 1995-2000 aggregate AMS because of the *de minimis* rule.

The dairy AMS, which accounted for over 75 percent of the total AMS in 1995, will likely fall to zero in 2000 with the phasing out of the "administered" price support level for dairy products. As a result of the dairy program phaseout, the U.S.'s total AMS level is expected to decline from about 27 percent of the WTO commitment ceiling during 1995-98 to only 12 percent of the ceiling in 1999, and finally to 6 percent in 2000.

Dairy's contribution to the AMS depends largely on the difference between the "administered price" for dairy products (per-unit price support, in milk-equivalent terms) and the observed level of an international dairy price in the base period. The market price support for dairy is defined for the AMS as this price difference (price gap), multiplied by the quantity of production. Thus, the elimination of the dairy price support and purchase program implies elimination of the dairy "administered price." This, in turn, implies elimination of the dairy AMS market price support measure which can no longer be calculated as originally defined.

Because the dairy price support program based on government purchases of dairy products will end after December 31, 1999, it was assumed that the marketing year 1999/2000 (October-September) dairy AMS should reflect market price support calculations only for October through December. The dairy market price support would be at the level of \$9.90 per cwt for one-fourth of the 1999 marketing year—and zero thereafter. Consequently, the dairy AMS declines from \$4.3 billion in 1998 to \$1.1 billion in 1999, and to zero in 2000.

U.S. Total AMS to Decline Sharply With Cuts in Dairy Support



1996-2000 estimated.

Economic Research Service, USDA

A recourse loan program for dairy products will replace the current program of price supports and government purchases. However, since loans under the new recourse loan program for dairy will have to be paid back (producers cannot forfeit the commodity in lieu of payment), the loans will not establish a price floor for the marketing season as the current purchase price program is intended to do.

Future AMS calculations will account for the changes in dairy policy. But the dairy AMS will be virtually eliminated under current interpretation of the WTO rules. There may still be some as-yet-unknown amount of support from interest subsidies on the recourse loans and from the current dairy indemnity program, but these will probably not be very important in the overall AMS. The Federal Milk Marketing Order programs for dairy will continue, but any remaining benefits of this program are not part of the AMS, as explained above. And the price support currently provided through the FMMO because of the national dairy price support purchase program will no longer exist after 1999.

The *sugar* AMS is 6 percent lower in 1996-2000 than in 1995 because of the assumed effect of the 1-cent-per-pound penalty for forfeiting sugar in lieu of payment under the price support loan program. This penalty, mandated under the 1996 Farm Act, reduces the effective support level from 18 cents per pound to 17 cents.

The *peanut* AMS during 1996-2000 is one-third lower than the 1995 AMS. The decrease is due to a 9.5-percent-lower level of *production eligible* for quota-peanut support and a 10-percent-lower level of *support* for quota peanuts, as mandated by 1996 farm legislation. A fixed minimum marketing quota is not authorized by the 1996 Farm Act.

Special Article

There is virtually no chance that the U.S. AMS will exceed its commitment ceilings any time during 1995-2000. Under the existing commodity programs and AMS definitions, any significant increases in the AMS would probably come from increased eligible production of dairy, sugar, or peanuts, from marketing loan or loan deficiency payments, or from increases in subsidies of programs for irrigation, livestock grazing, state credit, or crop insurance.

Marketing loan program benefits and loan deficiency payments, under current programs, could occasionally occur for some individual commodities, as market prices fluctuate around the presumed long-term projections. Producers who participate in government programs are eligible to receive marketing loan benefits or loan deficiency payments when announced commodity loan repayment rates are less than the original per-unit loan rate (i.e., the amount loaned to producers) plus accrued interest. Under these conditions, a marketing loan benefit is realized when a producer who has entered an eligible commodity under loan, repays the loan at the lower repayment rate and retains the difference. A loan deficiency payment is realized when a producer forgoes putting a commodity under loan and claims the difference (loan level minus repayment level) in the form of a direct payment.

Actual benefits from these loan-related payments, however, are not likely to significantly affect the ability of the U.S. to meet its support reduction commitments during 1996-2000. Repayment rates for cotton and rice are based on prevailing world prices, and repayment rates for wheat, feed grains, and oilseeds are

based on prices identified by the Secretary of Agriculture (currently "posted county prices"). The Secretary is required by the 1996 Farm Act to establish loan repayment rates that will minimize government stock accumulations and program costs, and that will allow U.S. commodities to be marketed competitively in domestic and international markets.

The baseline methodology used for the AMS projections assumes no shocks in the supply-demand environment that would set the stage for marketing loan or loan deficiency payments—so the projections assume zero values for these payments. Past experience with these programs suggests that producers of rice, cotton, sunflowerseed, or flaxseed would be the most likely candidates for enough marketing loan or loan deficiency payments to make their commodity's contribution to the U.S. AMS's non-zero, based on the UR provisions (the individual AMS's would have to be greater than 5 percent of their value of production to be included).

During 1986-95, the largest annual payment for these commodities totaled \$1.2 billion, an amount equal to the U.S.'s projected total AMS in 2000, using baseline assumptions (the totals for dairy, sugar, and peanuts)—well below the UR limit of \$19.1 billion in 2000. Thus, there would be no problem meeting U.S. commitments even if marketing loan and loan deficiency payments were to reach historic highs.

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