
Agriculture Rides Out the Storm

By Alan Barkema and Mark Drabentstott

Harsh weather pummeled U.S. agriculture in 1993, destroying crops and threatening a downturn in the farm economy. But while the rough weather took a large toll from many farmers, others prospered. Overall, the industry ended the year in solid financial condition.

Agriculture is well-positioned for a better year in 1994. With a return to normal weather, crop production should rebound. Higher crop prices, pushed up by lean crop inventories, may reward farmers for bringing larger crops to market. But higher crop prices will also push up feed costs for livestock producers. Overall, prospects for farm earnings are relatively bright, although little change is expected in the industry's already strong balance sheet.

AGRICULTURE WEATHERS A HARSH YEAR

Agriculture will long remember 1993 as a year of weather extremes. Winter storms temporarily crippled the Great Plains cattle industry, wet weather and floods washed out crops in the

Midwest, and drought seared crops in the Southeast. In the end, farm income held up surprisingly well, despite the severe weather. Livestock producers notched solid profits, as meat production hit another record. Higher crop prices created a financial windfall for many crop producers who sold grain stored from last year's bumper crop or who harvested near-normal crops this year. While the harsh weather of 1993 created financial hardship for many farmers, solid balance sheets enabled most to ride out the rough year.

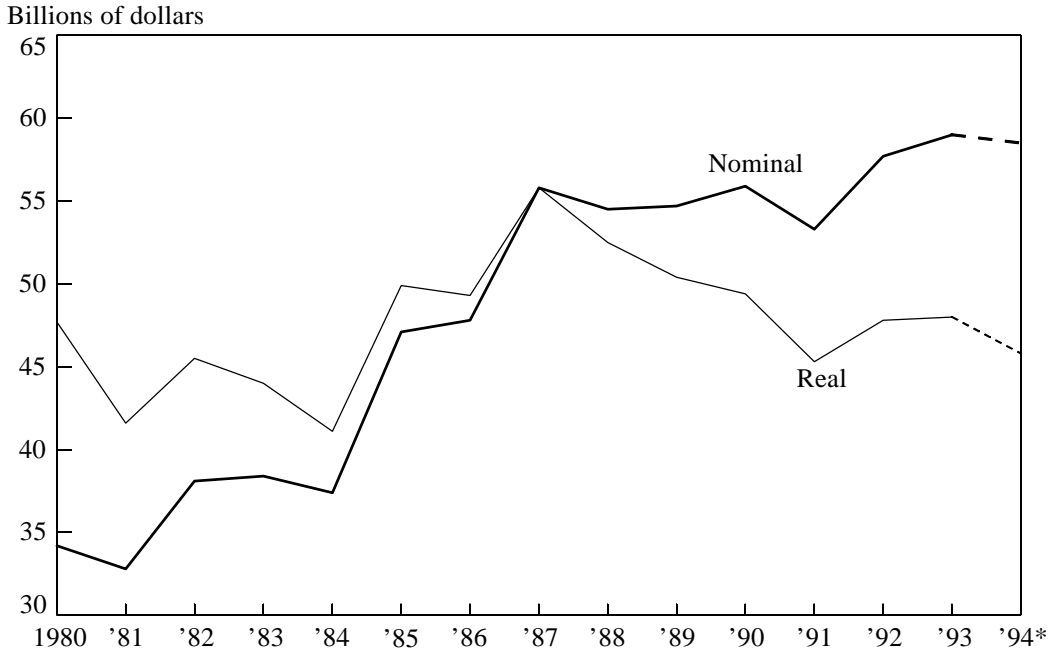
Uneven farm financial conditions

The flood commanded a lot of attention in 1993, sparking fears that it jeopardized the farm recovery. But as is true with most weather developments, the flood created both losers and winners. Once the flood waters receded and the pluses and minuses could be weighed, it became clear that farm financial conditions were steady to slightly improved for the nation and the Tenth District.

Farm income inched ahead in 1993 despite substantial crop losses. Net cash income, a measure that subtracts cash expenses from cash receipts, totaled \$59 billion in 1993, a new record in nominal terms (Chart 1). Adjusted for inflation, net cash income was unchanged from 1992. Looking back over recent years, farmers have kept incomes on a high plateau, although there has been some erosion after adjusting for inflation. Net

Alan Barkema is an assistant vice president and economist at the Federal Reserve Bank of Kansas City. Mark Drabentstott is a vice president and economist at the bank. Corey Waldinger, a research associate at the bank, helped prepare the article.

Chart 1
Net Cash Farm Income



*Forecast.

Source: U.S. Department of Agriculture, Economic Research Service, Agricultural Outlook Conference.

farm income, which takes account of fluctuations in farm inventories, showed more impact from the flood. Due to a \$3 billion drop in farm inventories—the biggest drop since the 1988 drought—net farm income fell 10 percent to \$44 billion. Much of that drop will be recovered in the coming year when farm inventories are expected to accumulate.

Several factors accounted for the record 1993 net cash income in the wake of the flood. Livestock producers, which account for roughly half of total farm receipts, had strong earnings for the year. Many farmers were able to sell crops held over from 1992 at prices pushed higher by the flood. Moreover, most of the reduced 1993

crop will not be sold until the 1994 calendar year, postponing much of the impact on farmers' income statements. Farm expenses increased just 1.3 percent, helping to maintain profit margins. Finally, government payments were up more than \$2 billion in 1993, helping to offset the flood's adverse impact.

Notwithstanding the slight overall gain, the farm financial picture was unusually uneven across the Farm Belt, due mostly to the flood and, to a lesser extent, a drought in the Southeast. The loss in the 1993 corn crop is a good indicator of where farm finances suffered the most. Minnesota and Iowa saw their 1993 corn crops cut roughly in half, compared with average production

in recent years (Table 1). South Dakota, Missouri, and Wisconsin suffered cuts of about a third. Nebraska saw a 21 percent drop, and a 1 percent decrease occurred in Kansas.

For the Tenth District as a whole, farm income probably increased in 1993. Much of the damage in Missouri was in the eastern half of the state, which lies outside the Tenth District. Nebraska's crop losses were offset by higher crop prices. And crop losses in Kansas were slight. More important, the cattle industry, which accounts for nearly 60 percent of district farm cash receipts, earned strong profits in 1993.

Other district indicators also point to a steady farm financial picture. By the third quarter of 1993, farmland values in the Tenth District had risen 3.7 percent from the year before, a slight rise in real terms (Chart 2). Land values were weakest in Missouri, where crop losses were the greatest. Ranchland values rose more than other types of land due to a strong cattle industry the past couple of years.

The farm sector balance sheet was steady in 1993 despite early fears prompted by the flood. Farm assets, farm debt, and farm equity all inched higher (Table 2). Adjusted for inflation, the sector's equity position was down less than 1 percent. On average, farmers continued to have a relatively low debt-asset ratio of 16 percent. Moreover, a decline in market interest rates enabled farmers to cut interest payments to just 5.7 percent of gross income, less than half the percentage of a decade ago.

Nationwide averages, of course, do not reflect the range of local financial impacts due to adverse weather. Many farmers in the flood-affected states experienced a sharp slip in financial condition. Loan repayment rates in western Missouri, for instance, were sharply lower in the third quarter according to a survey of agricultural bankers there. Bankers expect some deterioration in loan quality where crop losses were significant. But due to generally high loan quality when the year began, bankers generally expect

Table 1

Corn Production in Leading States

(Millions of bushels)

	1990-92 average	1993	Percent change
Iowa	1,631	880	-46.1
Illinois	1,381	1,300	-5.9
Nebraska	997	785	-21.3
Minnesota	741	322	-56.6
Indiana	697	713	2.3
Ohio	417	361	-13.5
Wisconsin	347	216	-37.7
South Dakota	251	161	-35.9
Missouri	248	167	-32.8
Michigan	244	237	-3.1
Kansas	218	216	-1.0
United States	8,297	6,344	-23.5

Source: U.S. Department of Agriculture.

only a small percentage of farmers to be forced out of business.

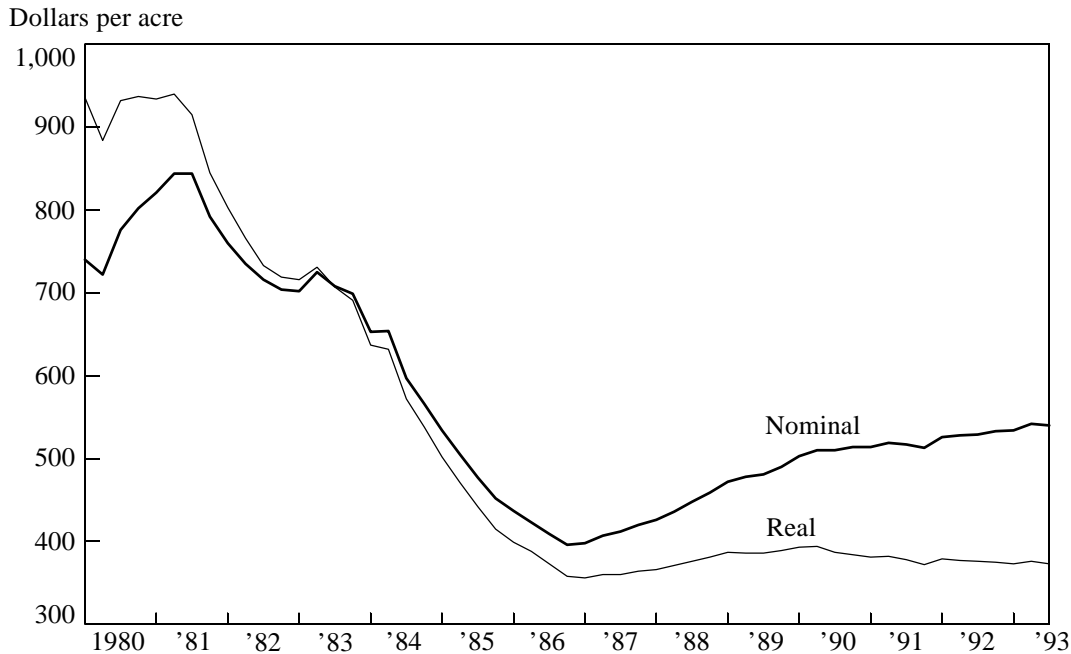
Another good year for livestock producers

Livestock producers notched another good year in 1993 as meat production hit a record high. Livestock prices went through sizable ups and downs, but most producers earned solid profits for the year. Extremely harsh weather in the early part of the year held back the growth in beef production, which was steady for the year as a whole. Pork production fell as producers responded to poor profit margins. Poultry growers, meanwhile, continued their persistent expansion, helped by growing demand at home and abroad.

Beef production finished steady in 1993 but

Chart 2

Farmland Values
Tenth District



Note: Values include only nonirrigated cropland.

Source: Federal Reserve Bank of Kansas City, Agricultural Credit Survey.

might have increased except for a bad start early in the year. The U.S. cattle inventory was higher in January 1993 than the year before, paving the way for more beef production. But the central and southern plains region, where the nation's cattle feeding is concentrated, suffered an especially cold and snowy first quarter. The harsh weather held back weight gains and slowed marketings. Cattle feeders boosted production in the second half, but not enough to increase beef output for the year.

Cattle prices were strong through most of the year due to the smaller than expected beef output. Prices for finished steers set records at more than \$80 a hundredweight in the first quarter. Prices

stayed at near-record levels in the second quarter but fell in the second half as beef output increased along with meat supplies in general. For the year as a whole, prices for choice steers in Nebraska markets averaged \$76.28, up about a dollar from the year before (Table 3). The high prices kept cattle feeders in the black for most of the year. Higher corn prices and lower cattle prices produced losses in the fourth quarter.

Pork production fell 0.8 percent in 1993, more than had been expected. Throughout the first half of the year, producers expected to boost output. But negative profit margins for many producers through the last half of 1992, coupled with the small corn crop in 1993,

Table 2

Farm Balance Sheet Excluding Operator Households and CCC Loans on December 31

(Billions of dollars)

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Assets										
Real estate	586.2	542.3	578.9	595.5	615.7	628.2	623.2	633.0	647.9	662.9
Nonreal estate	186.5	182.1	193.7	205.6	214.0	220.1	219.0	228.5	230.1	237.1
Total assets	772.7	724.4	772.6	801.1	829.7	848.3	842.2	861.5	878.0	900.0
Deflated	818.5	747.6	772.6	771.0	764.7	749.4	715.5	710.8	706.0	705.0
Liabilities										
Real estate	100.1	90.4	82.4	77.6	75.4	74.0	74.5	75.7	76.5	77.5
Nonreal estate	77.5	66.6	62.0	61.7	61.8	63.4	64.4	63.6	66.5	67.5
Total liabilities	177.6	157.0	144.4	139.3	137.2	137.4	138.9	139.3	143.0	145.0
Deflated	188.1	162.0	144.4	134.1	126.5	121.4	118.0	114.9	115.0	113.6
Proprietors' equity										
Deflated	595.1	567.4	628.2	661.8	692.5	710.9	703.3	722.2	735.0	755.0
Deflated	630.4	585.6	628.2	637.0	638.2	628.0	597.5	595.9	591.0	591.4
Debt-to-asset ratio (percent)	23.0	21.7	18.7	17.4	16.5	16.2	16.5	16.2	16.3	16.1

Note: Figures for 1993 and 1994 are forecasts.

Source: U.S. Department of Agriculture.

apparently caused fewer hogs than expected to be slaughtered.

The pork industry was widely watched as one of U.S. agriculture's most dynamic segments in 1993. Production continued to concentrate in the hands of fewer, larger producers as the industry became more vertically integrated. Large producers tend to control all phases of production and processing, from animal genetics to final retail products. Many of these large companies are locating production facilities in the Tenth District—and in Missouri, Oklahoma, and

Wyoming in particular.

Large supplies of competing meats kept hog prices lower than the cutback in production might otherwise have indicated. Prices for barrows and gilts in the benchmark Iowa-southern Minnesota market averaged \$46.07 a hundred-weight, about 7 percent higher than the 1992 average but lower than many market analysts had projected. With feed costs low through the first three quarters, most producers earned profits for the year as a whole.

The poultry industry continued to expand

Table 3

U.S. Farm Product Price Projections

(January 12, 1994)

	Marketing years			Percent change
	1991-92	1992-93*	1993-94 ⁺	
Crops				
Wheat	\$3.00/bu.	\$3.24/bu.	\$3.10-3.25/bu.	-2.0
Corn	\$2.37/bu.	\$2.07/bu.	\$2.55-2.75/bu.	28.0
Soybeans	\$5.58/bu.	\$5.60/bu.	\$6.10-7.10/bu.	17.9
Cotton	\$.58/lb.	\$.55/lb.	N/A	N/A
	Calendar years			Percent change
Livestock	1992	1993*	1994+	
Choice steers	\$75.36/cwt.	\$76.28/cwt.	\$71-77/cwt.	-3.0
Barrows and gilts	\$43.03/cwt.	\$46.07/cwt.	\$44-50/cwt.	2.0
Broilers	\$.53/lb.	\$.55/lb.	\$.50-.56/lb.	-4.0
Turkeys	\$.60/lb.	\$.63/lb.	\$.59-.65/lb.	-1.0
Lamb	\$61.00/cwt.	\$65.85/cwt.	\$61-67/cwt.	-2.8
Milk	\$13.09/cwt.	\$12.83/cwt.	\$11.70-12.70/cwt.	-4.9

* Estimated.

+ Projected.

Source: U.S. Department of Agriculture.

aggressively in 1993. Broiler production increased more than 5 percent as consumer demand continued to grow. Moreover, broiler producers shipped 22 percent more chicken products to foreign buyers in 1993. Broiler exports now account for more than 8 percent of total U.S. production. The increase in exports was an important factor helping to support broiler prices in the face of much bigger suppliers. For the year, prices averaged 55 cents a pound, a little higher than a year ago. Because feed costs were fairly low for the first three quarters, broiler producers earned solid profits in 1993.

Turkey producers held production growth in check in 1993 and were rewarded with the best profits in years. After several years of persistent production increases, turkey growers held output growth to less than 1 percent. A sharp rise in turkey exports and increased U.S. consumer demand led to average prices of 63 cents a pound. With feed costs low through the first three quarters, profit margins were positive. Passage of the North American Free Trade Agreement (NAFTA) is clearly a good omen for this industry as Mexico accounts for nearly three-quarters of U.S. turkey exports.

Rough weather for crop producers

The growing season began with ample spring rains, an auspicious start according to the grain trader's adage, "Rain makes grain." But as the rains drenched the western Corn Belt with the most summer rainfall in more than a century, some sodden fields were never planted and others were washed out. The cool, wet weather held back corn and soybean yields, slowed the winter wheat harvest, and hurt crop quality. An early summer spike in crop prices gradually evaporated as markets began to believe—mistakenly it turned out—that crop losses would not be great.

Despite overflowing rivers and streams, wheat yields overall were surprisingly good. At 38.3 bushels per acre, the national average yield was down just a bushel per acre from the near record in 1992. Still, the wet weather took a significant toll on crop quality in many areas.

Export demand for wheat plummeted as the crop matured. As the large crop ripened in the field and demand stayed sluggish, wheat prices dropped sharply. Despite the late season slide, however, wheat prices averaged \$3.24 a bushel during the 1992-93 marketing year ending May 31, up from \$3.00 a bushel the previous year.

The rainfall took a much bigger toll on the corn crop. During the winter and early spring, most forecasts pointed to ample supplies of corn and other feed grains. But prospects for corn, the most important feed grain, eroded rapidly as the rains began in the western Corn Belt. Wet weather slowed planting in the spring, and corn planters never reached some fields. Other fields along streams and rivers were destroyed by floods. Meanwhile, in the southeastern states, drought shriveled the corn crop. In the end, U.S. farmers harvested only 63 million acres of corn, down a whopping 9 million acres from the year before.

With a drought in the southeast and a torrent in the western Corn Belt, corn yields fell sharply on the nation's smaller acreage. Iowa, typically

the nation's leading corn producer, and counties in adjoining states absorbed the brunt of the weather. The average corn yield in Iowa fell more than 45 percent from the year before. But across much of the eastern Corn Belt, the weather was more favorable and corn yields dipped much less. Overall, the nation's crop averaged 100.7 bushels per acre, down more than a fifth from the year before and the lowest yield since the drought of 1988.

The full extent of damage to the corn crop was not apparent until the combines swung into the fields at harvest time. For example, from August to November, the U.S. Department of Agriculture, the nation's most widely watched crop forecaster, slashed its estimate of the corn crop by 920 million bushels, a drop of about 12 percent. The most recent estimate pegs the crop at only 6.3 billion bushels, down a striking 3 billion bushels from a record crop in 1992 (Table 4).

Corn prices jumped briefly in late spring, with rising concern over water-logged fields and the increased vulnerability of the late-planted crop to an early frost. But price gains were tempered by the enormous inventory of corn remaining from the previous crop. Most of the early season price gains evaporated by harvest time, when it appeared that most of the crop would mature ahead of the first frost. For the 1992-93 marketing year ended August 31, farm-level prices averaged \$2.07 a bushel, down sharply from \$2.37 a bushel the previous year.

The nation's soybean crop also shrank in the midwestern downpour. Farmers harvested the fewest acres of soybeans in 17 years, due to rains and flooding. Nationally, soybean yields averaged just 32.0 bushels per acre, well off the record yield of 1992. With both acreage and yields down, the crop was about 1.81 billion bushels, down a sixth from 1992 and the smallest since the drought of 1988.

Soybean prices surged in early summer, when it appeared the wet weather would prevent much of the crop from being planted. But most

Table 4

U.S. Agricultural Supply and Demand Estimates

(January 12, 1994)

	Corn (bu.)			Feedgrains (mt.)		
	September 1 - August 31			June 1 - May 31		
	1991-92	1992-93	1993-94	1991-92	1992-93	1993-94
Supply						
Beginning stocks	1,521	1,100	2,113	47.7	34.0	63.1
Production and imports	7,495	9,489	6,364	220.5	278.7	189.7
Total supply	9,016	10,589	8,477	268.2	312.7	252.8
Demand						
Domestic	6,332	6,813	6,375	184.5	198.5	186.8
Exports	1,584	1,663	1,300	49.7	51.1	39.2
Total demand	7,916	8,476	7,675	234.2	249.6	226.0
Ending stocks	1,100	2,113	802	34.0	63.1	26.8
Stocks-to-use ratio (percent)	13.9	24.9	10.4	14.5	25.3	11.9
	Soybeans (bu.)			Wheat (bu.)		
	September 1 - August 31			June 1 - May 31		
	1991-92	1992-93	1993-94	1991-92	1992-93	1993-94
Supply						
Beginning stocks	329	278	292	866	472	529
Production and imports	1,990	2,190	1,814	2,022	2,529	2,492
Total supply	2,319	2,468	2,106	2,888	3,001	3,021
Demand						
Domestic	1,357	1,406	1,341	1,137	1,118	1,198
Exports	684	770	615	1,280	1,354	1,225
Total demand	2,041	2,176	1,956	2,416	2,472	2,423
Ending stocks	278	292	150	472	529	598
Stocks-to-use ratio (percent)	13.6	13.4	7.7	19.5	21.4	24.7

Note: Data represent millions of bushels or metric tons.

Source: U.S. Department of Agriculture.

of the early price gains gradually eroded, and by harvest time prices had tumbled more than a dollar a bushel from the summer peak. For the 1992-93 marketing year ended August 31, farm level prices averaged \$5.60 a bushel, almost unchanged from the previous year.

A BRIGHTER HORIZON IN 1994

After weathering a rough 1993, prospects for agriculture should brighten in 1994. What weather the new year will bring is unknown, but the odds favor a return to more normal weather and a rebound in crop production. Farmers should have a chance to sell their larger crops at higher prices. Higher feed costs, however, could rein in livestock profits. Overall, farm income should remain solid in 1994, but little additional improvement is in store for the industry's already strong balance sheet. Longer term, the new NAFTA and the prospective agreement in the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) brighten the industry's prospects in the world marketplace.

Steady farm finances

Farm financial conditions should remain healthy in 1994, despite the aftereffects of the flood. With normal weather, crop producers should refill their grain bins while benefiting from higher prices. But the high prices will squeeze profit margins for the livestock industry, the leading source of farm income in recent years. The farm sector's balance sheet should be steady in 1994, with farm asset values likely to be flat in real terms as farmers continue to resist adding debt.

Farm income may be flat in 1994 but could edge down in real terms. Higher income to crop producers will slightly offset lower profits to livestock growers. Crop receipts will rise due to

higher average grain prices and an expected rebound in the crop harvest. Livestock receipts may be steady to down slightly in 1994, but profits will slip due to higher feed costs. Government payments should edge down as higher crop prices reduce the size of crop subsidies. Farm expenses will increase only modestly as farmers benefit from a low rate of general price inflation. Overall, net cash farm income may be steady in 1994, while slipping 2 to 3 percent in real terms. Net farm income, which takes farm inventories into account, may jump as much as a fifth as farmers refill their grain bins.

Steady farm income should carry over to a stable farm balance sheet in 1994. Farmland values are likely to continue their recent pattern of rising at roughly the same rate as inflation, leaving no gain in real terms. Farm debt, meanwhile, is unlikely to increase much if at all in 1994. Net worth, therefore, probably will be little changed in 1994 in real terms.

Farm credit conditions should be generally favorable in 1994. Farm loan demand has grown steadily over the past year, and banks and other credit providers appear to have plenty of funds available to meet the demand. Farm loan interest rates as of early 1994 are the lowest in 18 years. The biggest concern seems to be whether last summer's flooding will lead to a jump in farm failures. To date, the evidence suggests some mild deterioration in credit quality in weather-affected regions but no sharp increase in failures. Nevertheless, there will probably be more farm loans on banker watch lists in 1994, and concerns will elevate quickly if bad weather returns.

Food prices in check

The 1993 increase in food prices was tame, and prices should stay in check as 1994 unfolds. The food component of the Consumer Price Index increased 2 percent in 1993, compared with 1.2 percent in 1992. Weak consumer demand has

held back prices of food consumed both at home and away from home. In addition, the farm value of food, which accounts for 30 percent of retail prices, declined in 1993 despite higher livestock prices.

In the year ahead, food prices will probably rise about 3 percent, roughly equal to the rise of prices in general. As the economy strengthens, consumer food demand should also pick up. But growth has been weak in recent years, with spending on food rising an average of just 0.4 percent a year in real terms over the past four years. Thus, consumer demand is unlikely to put significant upward pressure on prices anytime soon. In addition, low oil prices will hold down transportation costs, which have a significant impact on retail prices. Finally, the farm value of food will increase modestly in 1994, held down by a slight drop in livestock prices.

Policy outlook

Key developments in farm policy are on tap for 1994, both domestically and internationally. The debate on domestic farm policy will warm up before gathering a full head of steam in 1995. Meanwhile, 1994 will be a critical year for international farm policy, as the NAFTA is implemented and Congress considers the recent deal struck in the Uruguay Round of the GATT.

Domestic policy. New budget realities will frame the domestic farm policy debate. Under a leaner national budget, fewer government dollars are available to boost farm incomes. Policymakers are almost certain to encourage farmers to rely less on government payments and more on market prices. In 1994, farmers will get a taste of a more market-oriented policy when the Acreage Reduction Program (ARP) is set to zero for all the major program crops. The ARP is the proportion of land farmers are required to idle if they wish to receive government payments. Usually, policymakers are reluctant to set the ARP at zero because that would boost production, push

down crop prices, and expose the federal budget to larger farm subsidies. But lean crop inventories reduce that risk in 1994.

Longer term, enabling U.S. farmers to plant more cropland has much to recommend it. When U.S. cropland lies idle in government programs, foreign farmers are encouraged to expand production, diminishing U.S. farmers' share of the global food market. Moreover, idling cropland tends to raise the cost of producing grain, inhibiting U.S. competitiveness in world markets. By the same token, however, free access to the global food market is a prerequisite for maintaining farm incomes as domestic production expands and government payments shrink in a tighter budget environment. Thus, progress in prying open world markets in the NAFTA and the GATT comes at an auspicious moment.

The NAFTA. The NAFTA, which went into effect January 1, 1994, is of keen interest to U.S. agriculture because it pulls down trade barriers between the United States and Mexico. Mexico is already one of the industry's most rapidly growing markets. In the mid-1980s, Mexico established new policies of free enterprise and free trade, which gave the nation's long-stagnant economy a shot in the arm. Growing incomes have encouraged the nation's 90 million consumers to upgrade their low-quality diets, swelling demand for food imports from the United States. Sales of U.S. farm products to Mexico have tripled since 1986, boosting Mexico's share of U.S. farm exports to nearly 10 percent.

The NAFTA promises further gains in farm trade with Mexico. The NAFTA will fuel further growth in incomes and food demand in Mexico, while tearing down barriers that obstruct farm trade between the two nations. The NAFTA will create both winners and losers in U.S. agriculture. U.S. grain producers, who already fill nearly three-fourths of Mexico's substantial grain supply gap, may reap the largest benefits from freer access to the Mexican market. U.S. livestock producers will also benefit from Mex-

ico's growing appetite for beef, pork, and poultry. Some U.S. horticultural producers, however, may face stiffer competition from Mexican producers. Overall, the industry's prospective gains under the NAFTA will easily outweigh its losses.

The Uruguay Round. The successful conclusion to the NAFTA paved the way to agreement in the Uruguay Round by demonstrating the U.S. commitment to freer world markets. The Uruguay Round is far more ambitious than the NAFTA, wrapping nearly 120 nations into a global effort to pry open trade in farm products, manufactured goods, intellectual property, and almost everything in between. But as the Uruguay Round neared its December 15 deadline, the long dispute between the European Community (EC) and the United States on farm trade threatened to sink the entire agreement, after more than seven years of tortuous negotiations.

The United States broke the deadlock in the Uruguay Round by agreeing to renegotiate the Blair House agreement, a deal on farm trade struck with the EC in November 1992. Since then, the United States had maintained that the Blair House agreement was final. But France steadfastly threatened to torpedo the entire GATT Round unless the Blair House agreement was reopened. As the negotiations reached the December 15 deadline, imposed by the expiration of the U.S. administration's fast-track negotiating authority, the United States reluctantly agreed to reconsider the Blair House accord.

The main sticking point in the original Blair House agreement was the requirement that the volume of subsidized farm exports be cut by 21 percent in six equal annual steps. France, the EC's leading farm exporter, complained that the cuts would drive down French farm incomes. To overcome the French objection, the new compromise "backloads" or delays the export reductions until later in the six-year period. Under the new deal, the EC's subsidized wheat exports must fall to 13.4 million metric tons in six years, the same ceiling as in the original Blair House accord. But

in the meantime, the EC will be able to unload an additional 8 million metric tons from the mountain of surplus grain accumulated during years of heavy subsidy under the EC's Common Agricultural Policy.

In exchange for renegotiating the Blair House accord, the United States won some additional concessions from the EC. The United States gained greater access to the EC market for some 20 U.S. farm products including fruit, turkey, and pork. And the EC also guaranteed the United States could export up to 2.3 million tons of corn and sorghum annually to Spain and Portugal, reconfirming an interim agreement struck in 1986 when Spain and Portugal joined the EC.

While the Blair House renegotiation was underway, separate negotiations led Japan to open its rice market to foreign growers. The Japanese have insisted on maintaining self-sufficiency in rice production, even though Japanese consumers could buy foreign rice at a lower price, long a sore point for U.S. rice producers. Except for emergency imports to cover shortfalls in the domestic crop, as in 1993, the Japanese rice market is closed to foreign rice. Under the Uruguay Round agreement, Japan will open the door—if only a crack—to rice produced in the United States and elsewhere.

The agreement struck in the Uruguay Round awaits the approval of Congress. If approved, the new global trade agreement would go into effect in July 1995. In the end, the Uruguay Round falls far short of its initial, ambitious goal of eliminating all trade-distorting farm policies. But the agreement takes global farm policy a big step in the right direction. In total, U.S. agriculture will clearly benefit from the step.

Export outlook

Exports of U.S. farm products may hold steady in 1994. The supply of farm products available for export will be down sharply, due to

much smaller grain and oilseed crops. And the meager exportable supplies will meet stiff competition from foreign competitors who harvested better crops. Nevertheless, stronger food demand in a healthier world economy and higher grain prices will shore up the value of farm exports, offsetting the decline in volume. On balance, farm exports could be \$42.5 billion in fiscal year 1994, about the same as the year before. Farm imports may also hold steady at \$24.5 billion, leaving the farm trade surplus unchanged from a year ago at \$18 billion.

Sales of value-added products, like horticultural and livestock products, will anchor U.S. farm exports in 1994, continuing the strong shift away from bulk commodity exports, like grains and oilseeds. In 1994, value-added exports, including livestock, dairy, poultry, and horticultural products, could rise to a new record. Meanwhile, the volume of wheat, feed grain, and oilseed exports could plummet nearly 15 percent, although higher prices for corn and soybeans may offset much of the decline.

Asia and Latin America will be the most promising markets for U.S. farm products in 1994. Japan will remain U.S. agriculture's leading customer with record purchases of nearly \$9 billion. Rising affluence in South Korea, Taiwan, and other rapidly developing Asian nations will fuel demand for U.S. farm products. Meanwhile, strong income growth could boost Mexico's purchases of U.S. farm products to a record of nearly \$4 billion in 1994. Longer term, the NAFTA promises to boost Mexico's purchases even more.

While export prospects brighten in the relatively new markets of Asia and Latin America, some traditional markets continue to fade. Farm exports to Russia and other former Soviet republics, once the leading market for U.S. grains, could shrink further in 1994 to a level about half that of 1992. With continued hard times in the former Soviet Union, sales will depend heavily on the availability of credit—with repayment guaranteed by the U.S. government. But that

credit will not be available unless Russia repays overdue loans by yearend 1993 and passes a new credit check by the USDA. Meanwhile, EC imports of U.S. farm products—about \$7 billion—are nearly as large as Japan's imports, but little growth is likely in 1994. Gains in the EC market await a rebound in a weak European economy and a further winding down of the Common Agricultural Policy's farm subsidies, underscoring the critical importance of the Uruguay Round.

Livestock outlook

The livestock industry will probably have slimmer profits in 1994 than in 1993. A strengthening U.S. economy will boost consumer incomes and meat purchases. But meat supplies are expected to increase substantially, and feed costs will rise well above 1993 levels. Lower profits are expected for beef and poultry producers, while pork profits may hold steady.

Beef production should increase markedly in 1994, although some analysts argue that high feed prices could limit the increase. The cattle industry has expanded the size of its herd the past four years, and the January 1, 1994 inventory is expected to show another increase to 102 million head. The bigger herd and packed cattle feedlots both point to more beef in 1994. Beef production is now expected to rise 4 percent, one of the biggest jumps in recent history. But if the 1994 corn crop is hurt by bad weather and corn prices remain high throughout the year, cattle producers would likely scale back the production hike.

With a bigger beef supply, cattle prices will probably be lower in 1994. An improved economy will help bolster demand for the bigger supply. Nonetheless, prices for finished steers are expected to average \$74 for the year, more than \$2 less than in 1993. Prices should be strongest in the second quarter, when seasonal meat supplies will be the tightest. But prices are likely to stay below the record levels posted in

the second quarter of last year. Though profit margins will be squeezed by lower prices and more costly feed, most cattle feeders should earn profits in 1994.

Pork production may be down about 2 percent in 1994 despite gains in consumer demand for pork products. Coming off much lower hog prices and sharply higher corn prices in the fourth quarter of 1993, pork producers will be reluctant to expand production, especially since corn prices are likely to stay high during the first part of 1994. Consumer demand for pork, meanwhile, promises to remain relatively strong. The pork industry has aggressively marketed its meat products and has dramatically reduced the amount of fat in pork products through genetic advances. As a result, per capita consumption of pork has grown in recent years, in contrast with declining beef consumption.

Continued strong consumer demand and steady pork supplies should lead to higher hog prices in 1994. Prices may be strongest in the second quarter when pork supplies will decline seasonally, and when beef supplies will also be tight. After peaking at around \$50 a hundred-weight in the spring, prices in the second half will probably drift below year-ago levels. For the year as a whole, Iowa-Southern Minnesota benchmark prices may average \$47 a hundred-weight, about a dollar higher than last year. Higher corn prices will probably keep producer profits steady.

Poultry producers will have a good year in 1994, but not as strong as in 1993. Higher feed prices have taken a big bite out of the industry's profit margins. Despite the higher costs, poultry production is expected to surge 5 percent in 1994 to another record high. Broiler producers are expected to increase chicken production 5 percent, aided by strong demand in export markets. Turkey production, meanwhile, should increase a modest 2 percent.

Strong consumer and export demand will keep poultry prices relatively strong despite the

sizable increase in supplies. The nation's appetite for poultry products gives no indication of being sated. Over the past five years, for example, per capita consumption of chicken has jumped nearly 18 percent, while beef consumption has slumped 10 percent. Demand is also strong in export markets, where U.S. shipments are expected to set another record. Broiler and turkey prices are expected to average 53 cents and 62 cents, respectively, slightly less than a year ago. Producers will earn profits at those prices, though less than a year ago due to higher feed costs.

Crop outlook

Feed grain and soybean inventories are expected to plunge during the 1993-94 marketing year, a direct result of the disappointing 1993 harvest. A larger planted acreage, encouraged by the zero ARP, should restore grain inventories to more comfortable levels—assuming weather returns to normal. But with inventories the leanest in nearly two decades, crop prices will remain sensitive to changes in crop prospects throughout the 1994 growing season.

The outlook points to a smaller and more competitive global market for U.S. wheat producers. Despite a slight decline in world wheat production, wheat supplies remain relatively large in major exporting and importing countries alike. North Africa, where a severe drought hurt the domestic crop, holds the most promise for U.S. wheat exports. But crops are ample in many other countries. Overall, U.S. wheat exports could be the smallest in three years.

In contrast to the slump in wheat exports, wheat imports could be the largest on record, as Canadian wheat spills over the border into U.S. feed bunks and flour mills. A short supply of corn and other feed grains in the United States has created a more attractive market for Canadian feed wheat. Last summer's wet weather also

eroded the quality of much of the U.S. wheat crop. With high-quality wheat in short supply, U.S. wheat millers are willing to pay premium prices, attracting imports of Canadian durum wheat. Much to the dismay of U.S. durum wheat producers, imports could comprise about a fifth of the U.S. durum wheat supply. At the behest of U.S. wheat growers, the Clinton administration has promised to discuss a reduction in wheat imports with Canadian officials. But strong demand in the United States is likely to maintain a substantial flow of Canadian wheat across the border.

Domestic wheat use may be brisk. With feed grains in short supply, livestock producers may feed nearly a third more wheat than a year ago. And wheat processed into human foods will climb further, rising for the 16th consecutive year. Overall, domestic wheat use could be up nearly a tenth from a year ago. The gains in domestic use, however, will not be big enough to offset weak exports. As a result, the wheat inventory is expected to grow more than a fifth to 642 million bushels. With a bigger inventory, farm level wheat prices may average \$3.10 to \$3.25 a bushel during the 1993-94 marketing year, down from \$3.24 a bushel the year before.

In sharp contrast to the buildup expected in the wheat inventory, the nation's corn stockpile is expected to dwindle to the smallest level since the mid-1970s. The disappointing U.S. harvest will not meet the needs of domestic and foreign consumers who rely on U.S. corn. Thus, the nation will reach deep into the big inventory of corn stored from the record 1992 crop.

Corn exports are likely to drop sharply. Despite the shortfall in the U.S. crop, foreign farmers harvested bigger crops, led by gains in Canada, Australia, the EC, and China—the leading foreign corn exporter. Meanwhile, the former Soviet Union, previously a major buyer of U.S. corn and other grains, is likely to buy far less U.S. grain than in previous years. With meat production declining, demand for U.S. corn and other feed grains will remain weak in the former Soviet

bloc. Overall, U.S. corn exports could shrink to 1,300 million bushels, down a fifth from the previous year.

The disappointing corn crop will also trigger cutbacks in domestic corn use. The biggest users of corn, U.S. livestock producers, may feed 9.5 percent less corn than last year. Meanwhile, food, seed, and industrial uses of corn, which are usually less sensitive to changes in corn supply and price, may increase slightly.

Despite sharp declines in corn exports and feeding, the nation's corn inventory is still expected to shrink to just 802 million bushels, about a five weeks' supply. Since harvest, when farmers and crop forecasters discovered far less corn in the nation's fields than expected, corn prices have bounced up. For the 1993-94 marketing year, farm-level corn prices could average \$2.55-\$2.75 a bushel, sharply higher than the year before.

The soybean outlook also points to weak exports and a shrinking inventory. Exports of soybeans and the two main products obtained from soybeans, meal and oil, are likely to slump in the year ahead. While torrential rains and floods pummeled the U.S. soybean crop, South American producers harvested record crops. For only the third time in history, foreign soybean production outpaced U.S. production. With U.S. supplies down, foreign supplies up, and demand weak in key markets, exports of U.S. soybeans and meal could drop nearly a fifth from last year. But with higher world market prices, export value might be down only slightly.

With the sharp drop in soybean meal exports, fewer soybeans may be crushed into meal and oil in U.S. processing plants. Supplies of soybean meal will still be ample to meet the needs of U.S. livestock producers, however, who are expected to feed about the same amount of soybean meal as in 1993. Overall, the domestic soybean crush may slip only 4 percent from last year's record.

Despite the sharp cutback in soybean exports and the smaller soybean crush, the U.S. soy-

bean inventory may shrink to about 150 million bushels, the smallest since the mid-1970s. Higher soybean prices since harvest will help ration the smaller than expected supply. For the 1993-94 marketing year, soybean prices may average \$6.10 to \$7.10 a bushel, a range well above the \$5.60 a bushel of the previous year.

CONCLUSIONS

Harsh weather buffeted U.S. agriculture in 1993, but the industry came through the year in better shape than many expected. Financial performance among farmers varied as widely as the weather, which ranged from drought to deluge. Large crop losses created financial hardship for some farmers, but sales of stored grain, higher crop prices, and strong livestock earnings bolstered incomes for many more. Despite the uneven financial performance, agriculture finished the year on solid footing.

The industry looks forward to a better 1994, bolstered by a rebound in crop production and higher crop prices. Nevertheless, lean grain inventories cast critical importance on the 1994 growing season. A larger planted acreage, encouraged by the zero ARP, should restore grain inventories to more comfortable levels—if weather returns to normal. With inventories the leanest in nearly two decades, another short crop could send crop prices—and feed costs—soaring, sending a shudder through the livestock industry.

Entering 1994, agriculture's longer term outlook is brightened by prospective gains in the world food market. NAFTA opens the door to the rapidly growing Mexican market for U.S. farm products. And an accord on global farm trade has finally been struck in the Uruguay Round of the GATT after seven years of frustrating negotiation. The final deal is less than the industry had hoped for, but it nonetheless signals a welcome turn in global farm policy.

