Grain Price OUTLOOK

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CORN: PRODUCTION EXCEEDS EXPECTATIONS

OCTOBER 2001 ***Darrel Good*** **2001 – NO. 7**

Summary

The USDA's October Crop Production report forecast the 2001 U.S. corn crop at 9.43 billion bushels. The crop is about 540 million bushels smaller than the 2000 harvest, due to reduced acreage. The national average yield is forecast at 136.3 bushels, only 0.8 bushels below last year's yield and higher than expected based on 2001 growing conditions.

The smaller harvest in 2001, along with expanding exports, will result in smaller corn inventories at the end of the 2001-02 marketing year than at the beginning of the year. The marketing year average price of corn is projected to be at the highest level in four years, but still low by historic standards. A modest post-harvest recovery in cash prices is expected, as basis levels strengthen and export movement remains brisk. Some additional strength in prices might be expected in the early spring of 2002, reflecting uncertainty about acreage and yields for 2002. The magnitude of the price rally will be determined by spring and summer weather conditions. Favorable production prospects could generate new marketing year lows in the cash market next summer.

Producer marketing decisions will continue to be tied to the use of the marketing loan program and the magnitude of the "carry" in the price structure.

Supply Prospects

Stocks of corn on September 1, 2001, the beginning of the 2001-02 marketing year, were estimated at 1.899 billion bushels. Those stocks are at the highest level in 8 years, but are about 150 million bushels smaller than projected in the summer of 2001. A late surge in export shipments and larger than expected feed and residual use of corn in the summer quarter accounted for the smaller than expected inventory (Table 1).

The USDA's October Crop Production report forecast the 2001 U.S. corn crop at 9.43 billion bushels, 202 million bushels larger than the September forecast and 164 million larger than the August forecast (Table 2). Still, the crop forecast is about 540 million bushels (5.4 percent) smaller than the 2000 crop and almost identical in size to the 1999 crop.

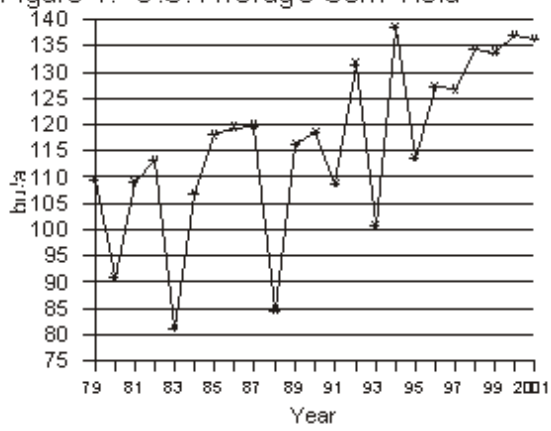
The smaller corn crop forecast for 2001 reflects reduced acreage. Corn planted

for all purposes is estimated at 76 million acres, about 3.5 million fewer acres than planted in 2000 and the fewest acres since 1995 (the last year that an acreage reduction program was in effect). Harvested acreage is estimated at 69.191 million, down 3.54 million from harvested acreage of a year ago (Table 3). The difference between acreage planted for all purposes and acreage harvested for grain is about unchanged from that of a year ago, at 6.8 million acres. The only major corn producing state that experienced an increase in corn acreage in 2001 was Indiana (Table 4).

The U.S. average corn yield is forecast at 136.3 bushels per acres, 2.8 bushels above the September forecast and only 0.8 bushels below the estimate for 2000 (Table 5). The average yield forecast is higher than anticipated based on crop condition ratings and the wide range in growing conditions experienced in 2001. Generally, higher yields are expected in the southeastern part of the country and lower yields in the upper midwest. An exceptionally high average yield, 160 bushels per acre, is expected in Indiana and low yields are expected in Michigan and Pennsylvania.

One of the factors that is contributing to higher average yields is higher ear population per acre. The USDA conducts objective yield surveys in Illinois, Indiana, Iowa, Minnesota, Nebraska, Ohio, and Wisconsin. Based on the October survey, the average number of ears per acre is higher than a year ago in four of the seven states and higher than in 1999 in six of the seven.

Figure 1. U.S. Average Corn Yield



U.S. average corn yields have been remarkably stable over the past four years and near trend value in each of the past six years. This is in sharp contrast to the yield volatility of the 1980s and early 1990s (Figure 1). A similar period of stability has not been experienced since the early 1950s. A larger corn production forecast in October following a smaller forecast in September was also experienced in 1989, 1991, 1997, and 1999. The September to October increase in those years ranged from 44 million to 184 million bushels (0.5 to 2.5 percent). The increase this year, then, is not out of the range of experience. In the previous four years with a similar pattern, the November forecast was unchanged from the October forecast once and was larger three times. The increase ranged from 41 to 70 million bushels (less than 0.1 percent). In two of those three years, however, the January estimate was below the November forecast. In one of those years, the January estimate was below the October forecast and in one year it was above the October forecast. Since the magnitude of change from October to January was extremely small in all four years used in comparison here, it is expected that the January 2002 estimate will be near the October 2001 forecast.

The October forecast is used in the analysis here.

Domestic Use to Stabilize

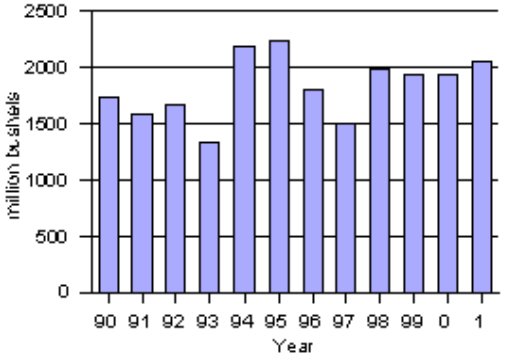
Domestic feed and residual use of corn has increased fairly steadily since 1996-97, reflecting large supplies and low prices of corn. Increases were especially large during the past two years. Use during the 2000-01 marketing year reached an estimated 5.887 billion bushels, accounting for 60 percent of total use. Use during the past year was supported by low corn prices, profitable livestock production, large numbers of cattle in feed lots, and a decline in sorghum feeding. For the current marketing year, use will also be supported by low corn prices. However, the expected expansion in hog production is not occurring, placements of cattle into feed lots is slowing, and feed use of sorghum is expected to rebound slightly. More than offsetting that decline, however, is an expected reduction in feed and residual use of oats and barley. Combined feed use of those three crops is projected to decline by 50 million bushels. As a result, feed use of corn is expected to remain at a very high level, projected here at 5.85 billion bushels (Table 6). The rate of use will not be known until the release of the USDA's December Grain Stocks report on January 11, 2002.

Seed, food, and industrial use of corn in the U.S. has increased at a remarkably constant rate since about 1975. The only year-over-year decline in use was in 1995-96 when supplies were inadequate and prices too high to maintain use. The manufacture of high fructose corn syrup (HFCS) and ethanol have supported the long period of expansion. Over the past three years, the annual increase in processing use of corn has ranged from 41 to 67 million bushels, averaging 54 million bushels per year. Another increase is expected in 2001-02, led by expanding ethanol production. Growth in HFCS production, however, is expected to be modest. We project use for all purposes at 2.04 billion bushels, up 73 million bushels from that of the past year (Table 6).

Exports to Rebound

Marketing year exports of U.S. corn have been remarkably stable over the past three years, ranging from 1.937 to 1.981 billion bushels. This is in sharp contrast to exports of the previous nine years when marketing year exports ranged from 1.328 billion to 2.367 billion bushels (Figure 2). For the 2000-01 marketing year, exports fell short of early season projections by about 200 million bushels. The short fall has typically been attributed to a slow down in shipments to Asia due to concerns about StarLink and to larger than expected shipments of corn by China. For the year, Japan imported about 573 million bushels of U.S. corn, 50 million less than during the previous year. Shipments to Taiwan and South Korea were about equal to those of the previous year. The major growth market was Mexico, who imported about 43 million bushels (23 percent) more U.S. corn than during the previous year.

Figure 2. U.S. Corn Exports



China exported an estimated 275 million bushels of corn during the past marketing year, about 115 million less than during the previous year, but more than expected given the 870 million bushel drop in production. As a result, China reduced its inventory of corn by an estimated 825 million bushels (20 percent) by year's end.

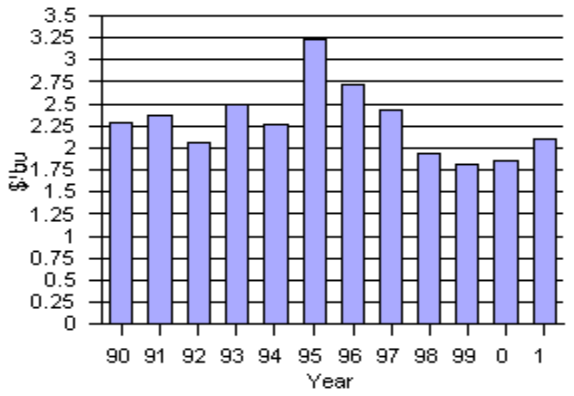
U.S. exports did accelerate in the last quarter of the year, exceeding last summer's exports by nearly 60 million bushels (Table 1). Export shipments during the first six weeks of the 2001-02 marketing year totaled about 226 million bushels, down nearly 15 percent from the total during the same period last year. Total export commitments (shipments plus outstanding sales) were running about 8 percent behind the pace of a year ago. The pace of both shipments and sales is expected to accelerate over the next several months. The primary source of optimism is a second consecutive small crop in China. This year's production is now estimated at 4.25 billion bushels, only about 2 percent larger than last year's crop and nearly 16 percent smaller than the 1999 crop (reflected in Table 7). The USDA currently projects a drop of 118 million bushels in Chinese corn exports this year. With world trade to be about equal that of last year, most of that reduction should result in increased U.S. shipments, with small increases for Argentina and South Africa. If that is the case, U.S. exports will rebound to about 2.05 billion bushels during the 2001-02 marketing year (Table 6). China's entry into the World Trade Organization, a slowing U.S. and world economy, and political unrest all contribute to the uncertainty about export prospects.

Price Prospects

Based on projections developed here, stocks of corn in the U.S. will be reduced to about 1.4 billion bushels by the end of the 2001-02 marketing year (September 1, 2002). That forecast is well below the level of the past three years and represents about 14.1 percent of projected annual use. That is about equal to the stocks -to-use ratio for the 1997-98 marketing year, when the season's average farm price was estimated at $2.45 (Figure 3). Significant reduction in stocks of corn and other grains outside of the United States is also occurring for the second consecutive year. Yet, prices are not expected to average near the levels of 1997-98. "Freedom-to-Farm" along with six consecutive years of near-trend corn yields has apparently changed the market's perception about a "comfortable" level of carryover stocks. In short, declining stocks are not expected to push prices significantly higher as long as there are prospects for another larger crop in the following year. To maintain U.S. production at a high level, however, will require an increase in corn acreage in 2002. A crop of 9.4 to 9.5 billion bushels and a market for 9.9 billion bushels in 2002-03 would project to inventories declining well below one billion bushels, likely requiring some price increase to slow the rate of use. It seems that

regardless of the season's average price, corn prices will have to be attractive enough at planting time to encourage producers to expand acreage. Assuming that planting increases by 2 to 3 million acres in 2002 and that the growing season is favorable for the seventh consecutive year, the season's average farm price of corn is projected at $2.10 per bushel.

Figure 3. U.S. Average Farm Price of Corn



What can be said about the seasonal pattern of corn prices? As we have pointed out on several occasions in the past, the extremes in the cash price of corn (measured in central Illinois) tend to occur in the first quarter of the year or the last quarter of the year. Over the past 28 years, the highest spot cash price of corn in central Illinois (during the September through August time frame) has occurred in September, October, or November 9 times and in June, July, or August 13 times. The high has been in December one time, in January one time, in March twice, and in May twice. The lowest cash price has occurred in September, October or November 13 times and in July or August 13 times. The low occurred in January one time and in February one time.

For the current year, then, we would expect a seasonal, and perhaps marketing year, low in the central Illinois cash price to occur in October or November. To date, the low average daily price is $1.795, reached on October 15 (following the October Crop Production report). That is well above the marketing year low of the previous four years, which ranged from $1.45 to $1.665. The low, however, is consistent with the expectation that the marketing year average price will be $.25 higher than that of last year. The seasonal low in cash prices should be near. Watch the basis for signs of strengthening to indicate that the low is near. Whether the fall low will be the marketing year low is not known. If a new low is established, history would suggest that would happen next summer. If the fall low is the marketing year low, history would also suggest that the highest cash price would be expected next summer. At a minimum, the range between highest and lowest cash price for the year in central Illinois should be near $.60 per bushel. The range has not been less than that since 1992-93 and only twice in the past 28 years.

Pricing Decisions

Pricing of the remainder of the 2001 crop will be influenced by the marketing loan program and the size of the carry in the corn price structure. At the current time, spot cash prices and posted county prices (PCP) are below the CCC loan rate. As of October 18, the average loan deficiency (LDP) payment in Illinois was $.19 and the cash price and PCP were relatively close. At the same time, the premium for January delivery over spot delivery was $.16 per bushel. Assuming a typical basis level by spring, the premium for June 2002 delivery over spot delivery was $.33 per bushel. One pricing alternative to consider on a portion of the crop is to

establish the LDP now and forward price (or hedge) the stored crop for later delivery. Whether that is attractive, depends partially on the cost of storage. If storage costs (including interest) are less than $.16 per bushel to January or $.33 to June, this strategy could be considered since it would result in a higher net price than establishing the LDP and pricing the crop in the spot market for immediate delivery.

A second alternative is to establish the LDP and hedge the stored crop by buying put options (or using a minimum price contract). The cost of at-the-money puts is about $.08 for March and $.15 for July. This strategy would reduce the net price in comparison to strategy one by the cost of the option, but would allow the producer to participate in any subsequent rally in the futures market should it occur.

A third strategy is to establish the LDP at the perceived harvest time low in the cash market and hold the crop in anticipation of a post harvest rally. This is the most speculative strategy since there is no guarantee that prices will go up or that prices will not go down. The portion of the crop allocated to this strategy should be limited. The same strategy can be implemented by selling the crop on basis contract or by selling the crop and buying call options. Both strategies are expensive because of the large carry in the market, but the option strategy would have the benefit of limiting losses from declining prices.

A fourth strategy is to place the crop under loan and store in anticipation of a price rally above the loan rate by more than the cost of storage. If a harvest time low in cash prices is expected, the loan repayment rate could be locked-in for a period of 60 days.

A final strategy is to establish the LDP at harvest and price the crop in the spot market. This strategy would be preferred if storage is expensive and/or post-harvest rallies are expected to be small.

A "portfolio" of strategies might be considered as well. That is, a portion of the crop could be sold under two or more of the alternatives outlined here.

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Table 1.Corn Quarterly Balance Sheet

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
	million bushels																			
September 1 stocks	1,392	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718
Production	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,968
TOTAL[a]	9,511	10,772	7,699	8,680	10,534	12,267	12,016	9,191	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,693
September-November																				
Seed, food, ind.	173	208	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	534	506
Feed, residual	1,218	1,215	1,326	1,301	1,219	1,348	1,551	1,344	1,487	1,619	1,673	1,814	1,701	1,963	1,778	1,885	2,030	2,118	2,189	2,192
TOTAL	1,910	1,866	2,046	2,048	1,910	1,961	2,243	2,117	2,381	2,339	2,455	2,672	2,519	2,822	2,856	2,759	2,845	3,018	3,182	3,165
December 1 stocks	7,601	8,906	5,652	6,631	8,615	10,305	9,771	7,072	7,082	6,940	6,547	7,906	5,937	8,080	6,106	6,903	7,247	8,052	8,039	8,522
Seed, food, ind.	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	468	416
Feed, residual	1,199	1,305	1,069	1,192	1,306	1,463	1,444	1,065	1,276	1,351	1,267	1,401	1,240	1,492	1,344	1,486	1,503	1,460	1,526	1,599
TOTAL	1,835	2,007	1,787	2,008	2,028	2,057	2,137	1,868	2,271	2,152	1,991	2,229	1,949	2,493	2,311	2,411	2,308	2,359	2,441	2,480
March 1 stocks	5,766	6,899	3,865	4,623	6,587	8,248	7,636	5,204	4,812	4,789	4,561	5,678	3,996	5,592	3,800	4,494	4,940	5,698	5,602	6,043
Seed, food, ind.	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	524
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	456
Feed, residual	1,089	1,272	954	1,019	1,091	1,088	951	841	993	960	1,042	1,146	950	1,159	1,044	1,097	1,084	1,097	1,059	1,142
TOTAL	1,886	1,975	1,720	1,788	1,599	1,917	1,798	1,786	1,970	1,798	1,828	1,971	1,642	2,180	2,087	2,001	1,904	2,089	2,022	2,122
June 1 stocks	3,880	4,924	2,145	2,836	4,990	6,332	5,839	3,419	2,843	2,992	2,739	3,709	2,360	3,415	1,718	2,497	3,040	3,616	3,586	3,924
Seed, food, ind.	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	495	512
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	569	484	562
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	795	890	953
TOTAL	1,344	1,401	1,139	1,188	957	1,450	1,580	1,489	1,499	1,472	1,642	1,599	1,511	1,858	1,295	1,617	1,734	1,831	1,869	2,027
September 1 stocks	2,537	3,523	1,006	1,648	4,040	4,882	4,259	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899
Annual																				
Seed, food, ind.	733	855	930	1,067	1,152	1,233	1,251	1,298	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,967
Export	1,997	1,821	1,887	1,850	1,227	1,492	1,716	2,029	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,940
Feed, residual	4,245	4,573	3,876	4,115	4,114	4,660	4,789	3,934	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,887
TOTAL	6,975	7,249	6,693	7,032	6,494	7,385	7,757	7,260	8,120	7,761	7,916	8,471	7,622	9,352	8,548	8,789	8,791	9,298	9,524	9,794

[a] Includes imports for the entire year.

Table 2. United States Corn Production Estimates

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	million bushels																				
July	7,116	…	…	…	…	…	…	5,200													
August	7,735	8,315	5,237	7,668	8,266	8,316	7,231	4,479	7,348	7,850	7,418	8,762	7,423	9,214	8,122	8,695	9,276	9,592	9,561	10,369	9,266
September	7,940	8,319	4,390	7,552	8,469	8,268	7,141	4,462	7,321	8,118	7,295	8,770	7,229	9,257	7,832	8,804	9,268	9,738	9,381	10,362	9,238
October	8,081	8,315	4,259	7,498	8,603	8,220	7,139	4,553	7,449	8,022	7,479	8,938	6,962	9,602	7,541	9,012	9,312	9,743	9,467	10,192	9,430
November	8,097	8,330	4,121	7,527	8,717	8,223	7,166	4,671	7,590	7,935	7,479	9,329	6,503	10,010	7,374	9,265	9,359	9,836	9,537	10,054	
January	8,201	8,397	4,204	7,656	8,865	8,253	7,064	4,921	7,527	7,933	7,474	9,479	6,344	10,103	7,374	9,293	9,366	9,761	9,437	9,968	
FINAL	8,119	8,235	4,174	7,672	8,875	8,226	7,131	4,929	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431		

Table 3. United States Corn Planting Intentions, Actual Plantings, and Acres Harvested

	Planted Acreage				
Year	February/January Intentions	March Intentions	June Intentions	Actual	Harvested Acreage
			thousand acres		
1976	80,822	82,727	84,092	84,588	71,506
1977	84,526	83,923	82,735	84,328	71,614
1978	80,944	80,237	78,717	81,675	71,930
1979	80,676	79,209	79,751	81,394	72,400
1980	83,131	82,022	83,478	84,043	72,961
1981	…	83,977	84,677	84,097	74,524
1982	…	84,735	82,129	81,857	72,719
1983	69,569[a]	58,812	60,129	60,217	51,479
1984	…	81,766	79,940	80,617	71,897
1985	…	82,021	83,217	83,398	75,209
1986	…	78,066	76,646	76,580	68,907
1987	…	67,556	66,024	66,200	59,505
1988	…	66,926	67,519	67,717	58,250
1989	…	73,253	72,790	72,322	64,783
1990	…	74,804	74,574	74,166	66,952
1991	77,500	76,124	75,909	75,957	68,822
1992		79,007	79,335	79,311	72,077
1993		76,486	74,259	73,239	62,933
1994		78,625	78,767	78,921	72,514
1995		75,323	72,800	71,479	65,210
1996		79,920	80,355	79,229	72,644
1997		81,416	80,227	79,537	72,671
1998		80,781	80,798	80,165	72,589
1999		78,219	77,611	77,386	70,487
2000		77,881	79,579	79,545	72,732
2001		76,693	76,109	76,009	(69,191)

[a] February

Table 4. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
						thousand acres						
Georgia	660	600	750	650	600	400	580	550	500	350	400	280
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	10,900
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,900
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,900
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,300
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,280
Michigan	2,400	2,600	2,700	2,500	2,550	2,450	2,650	2,500	2,300	2,200	2,200	2,200
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,100	6,900
Missouri	2,100	2,300	2,500	2,200	2,400	1,650	2,750	2,700	2,650	2,650	2,850	2,700
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,200
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	710
Ohio	3,700	3,700	3,800	3,500	3,700	3,300	2,900	3,800	3,550	3,450	3,550	3,400
Pennsylvania	1,380	1,400	1,380	1,370	1,400	1,380	1,450	1,550	1,550	1,500	1,550	1,500
South Dakota	3,400	3,750	3,800	3,350	3,800	2,800	4,000	3,800	3,900	3,600	4,300	3,800
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630
Texas	1,650	1,700	1,750	2,000	2,150	2,100	2,100	2,000	2,400	1,950	2,100	1,600
Wisconsin	3,700	3,800	3,900	3,400	3,750	3,650	3,900	3,850	3,700	3,600	3,500	3,400
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,545	76,009

Table 5. United States Corn Yield Estimates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	bushels per acre																										
July 1	93.0	90.5	89.4	90.1	95.8	99.3	95.9	…	…	…	…	…	…	87.0													
August 1	87.4	86.7	87.3	96.1	102.1	93.0	104.3	113.9	99.9	107.9	110.6	120.4	121.4	78.5	112.8	117.7	107.8	121.3	116.0	128.4	125.6	118.7	125.3	130.0	134.7	141.9	133.9
September 1	85.1	82.8	89.7	100.3	104.6	91.8	107.1	113.9	85.1	106.3	113.3	119.7	119.9	78.5	112.4	121.7	106.1	121.4	113.1	129.0	121.1	120.2	125.2	132.0	132.2	141.8	133.5
October 1	86.2	82.7	90.8	100.7	106.4	90.8	109.0	114.2	82.9	105.5	115.1	119.2	119.9	80.2	114.4	120.3	108.8	123.8	110.3	133.8	116.6	123.0	125.8	132.0	133.5	139.6	136.3
November 1	87.2	85.5	91.5	101.2	109.2	90.8	109.2	114.2	80.5	105.9	116.6	119.3	120.3	82.3	116.6	119.0	108.6	129.3	103.1	138.4	113.7	126.5	126.4	133.3	134.5	137.7	
January 1	86.2	87.4	90.8	101.2	109.4	91.0	109.9	114.8	81.6	106.6	118.0	119.3	119.4	84.6	116.2	118.5	108.6	131.4	100.7	138.6	113.5	127.1	127.0	134.4	133.8	137.1	
FINAL	86.4	88.0	90.8	101.0	109.5	91.0	108.9	113.2	81.1	106.7	118.0	119.3	119.8	84.6	116.3	118.5	108.6	131.5	100.7	138.6	113.5	127.1	126.7	134.4	133.8		

Table 6. Corn Annual Balance Sheet

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01[a]	2001-02[a]
	million bushels												
Carryin	1,930	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899
Production	7,532	7,934	7,475	9,477	6,338	10,051	7,400	9,233	9,207	9,759	9,431	9,968	9,430
TOTAL[b]	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,693	11,338
Seed, food, industrial	1,370	1,425	1,533	1,556	1,613	1,715	1,628	1,714	1,805	1,846	1,913	1,967	2,040
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,940	2,050
Feed and residual	4,382	4,609	4,798	5,252	4,680	5,460	4,693	5,277	5,482	5,471	5,664	5,887	5,850
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,794	9,940
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,398
U.S. average price	$2.36	$2.28	$2.37	$2.07	$2.50	$2.26	$3.24	$2.71	$2.45	$1.94	$1.82	$1.85	$2.10

[a] Projected

[b] Includes imports

Table 7. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	million metric tons																		
United States	137.1	237.7	274.9	252.8	215.9	149.7	221.4	230.7	218.6	277.4	186.5	284.9	210.0	265.7	260.4	271.5	263.2	274.5	260.4
Former USSR	99.0	90.5	100.0	105.9	113.7	97.5	104.8	99.4	80.4	95.3	95.6	79.2	57.4	52.0	67.9	38.0	40.5	49.4	57.3
Western Europe	86.2	103.6	101.4	94.0	93.3	99.5	102.2	97.6	104.3	93.8	96.1	86.6	88.5	103.8	109.4	105.6	103.0	107.7	106.7
China	92.7	96.2	82.3	87.0	95.8	94.2	93.5	111.7	112.3	108.4	117.8	114.3	124.5	141.3	114.7	144.2	137.2	114.0	116.2
Eastern Europe	67.1	72.8	65.5	73.9	63.9	61.3	60.2	51.4	64.7	43.2	44.5	46.9	51.4	50.0	59.0	51.0	54.6	36.2	50.8
Canada	21.0	22.0	23.9	25.5	25.5	19.7	23.5	24.8	21.8	19.6	24.0	23.4	24.1	28.2	25.1	26.6	26.8	24.0	22.0
India	34.1	31.4	25.8	26.6	23.5	31.3	34.6	32.6	25.9	36.8	31.0	30.1	29.8	34.3	30.9	31.7	30.5	30.5	32.0
Brazil	21.5	22.5	21.7	27.3	25.4	26.7	22.5	24.4	31.4	29.9	33.8	38.2	33.2	36.6	31.3	33.5	32.6	40.1	37.1
Argentina	17.4	18.9	17.4	13.0	13.1	7.3	8.3	10.8	14.5	14.1	13.3	13.9	14.1	18.9	24.7	17.8	21.5	20.5	19.4
South Africa	5.1	9.0	8.9	7.9	7.9	13.0	9.5	8.9	3.6	10.7	14.0	5.4	11.0	10.7	8.2	8.1	11.1	7.9	9.4
World	685.4	814.1	843.3	835.2	791.5	731.2	802.6	819.5	804.2	869.1	799.9	873.6	802.9	908.3	883.2	890.1	876.6	855.9	868.1
Excluding the U.S.	548.3	576.4	568.4	582.4	575.7	581.5	581.2	588.8	585.6	591.7	613.4	588.7	592.9	642.6	622.8	618.4	613.4	581.4	607.7

Source: USDA, FAS, World Crop Production, October 2001 and earlier issues.