



# Grain Price OUTLOOK

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## CORN: A RECORD LARGE CROP

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### Summary

The USDA's October forecast is for a record U.S. corn crop of 10.207 billion bushels. That forecast, along with September 1, 2003 inventories that were 77 million bushels larger than expected, projects to 2003-04 marketing year supplies of 11.3 billion bushels, 684 million bushels above the supplies of a year ago.

Domestic use of corn during the 2003-04 marketing year is projected to increase by over 250 million bushels, led by increased ethanol production and a modest increase in livestock production. Exports are expected to increase about 275 million bushels from the low level of last year. Still, the large crop and a modest build-up in year ending stocks will keep corn prices at lower levels than in 2002-03, particularly in the first half of the marketing year. The USDA projects the marketing year average price of corn in a range of \$1.90 to \$2.30, compared to an average of \$2.32 for the 2002-03 marketing year. Prices at harvest time are near the CCC loan rate in many areas. Some seasonal recovery in cash prices is expected after harvest.

### September 1 Stocks Exceed Expectations

The USDA's September 30 *Grain Stocks* report estimated September 1, 2003 corn stocks at 1.086 billion bushels (Table 1). That is the lowest level of year-ending stocks in six years, but is 77 million bushels above the USDA's projection and about 50 million bushels larger than the average pre-report guess. That level of inventory means that consumption of U.S. corn for all purposes during the 2002-03 marketing year reached only 9.533 billion bushels. Feed and residual use was at a four year low of 5.637 billion bushels and exports were at a five year low of only 1.6 billion bushels. Feed and residual use of corn during the summer of 2003 was a surprisingly small 891 million bushels. Apparent feed and residual use of wheat was large during that quarter in spite of high wheat prices. In contrast, use of corn for seed, food, and industrial purposes was a record large 2.3 billion bushels. The large annual increase in industrial use of corn for the past two years was led by an increase in use of corn for ethanol production. Use was estimated at 953 million bushels during the 2002-03 marketing year.

### Record Crop in 2003

In early July, the USDA's World Outlook Board projected a 2003 corn crop of 10.27 billion bushels, based on trend yield adjusted by crop condition ratings. By late July 2003, there was considerable discussion of the possibility of a 10.5 billion bushels U.S. corn crop this year. In the first survey based projection in August, the USDA projected the crop at 10.064 billion bushels. That projection dropped to 9.944 billion bushels in September, but rebounded to 10.207 billion in October (Table 2). That production forecast reflects an estimate of harvested acreage of 71.765 million (Table 3). Acreage harvested for grain is expected to exceed that of 2002 by 2.45 million even though acreage planted for all purposes is essentially unchanged from that of 2002. There was an increase in acreage harvested for silage and abandoned acres in 2002 due to dry growing conditions in some eastern areas.

The 2003 U.S. average corn yield is projected at a record 142.2 bushels. That projection is 3.7 bushels above the September projection, 12.2 bushels above the 2002 average, and 3.6 bushels above the previous record yield of 1994 (Table 4). Of the major corn producing states, the highest average yield (169 bushels) is projected for Illinois. That projection is 33 bushels above the 2002 average and 13 bushels above the previous record established in 1994. The average yield for the central Illinois crop reporting district is projected at 193 bushels. Of the major corn producing states, the average yield is projected to be below that of a year ago in only Colorado, Iowa, Minnesota, North Dakota, Texas, and Wisconsin. The largest year over year increase is projected for Ohio. The average of 154 bushels is 66 bushels above last year's drought reduced yield.

There is some expectation that the November production forecast will be slightly larger than the October forecast. Since 1975, the November yield forecast was below the October forecast only six times. In the four years that the yield forecast declined in September and then increased in October (as was the case this year), the yield forecast increased again in November in three years. The increase ranged from 1 bushel (1975 and 1999) to 2.7 bushels (2001). The decline in 1991 was 0.2 bushels. The USDA incorporated administrative acreage information in the October production forecast. It is not likely that the harvested acreage estimate will change in November. It may be that the November 2003 forecast will be for a crop near 10.3 billion bushels.

Production of other U.S. feedgrains (sorghum, barley, and oats) is also projected to be larger this year than last year. Combined production of those three crops is projected at 822 million bushels, up from 716 million produced last year. That projection, however, is 20 million bushels below the September forecast. The 106 million bushel increase in production is also partially offset by a 55 million bushel reduction in the level of stocks at the beginning of the marketing year. U.S. feed grain production in 2003 is projected to be 13.4 percent larger than in 2002 and supplies (production, beginning stocks and imports) are expected to be 6.4 percent larger.

### **U.S. Export Prospects**

Annual U.S. corn exports ranged from 1.937 billion to 1.989 billion bushels from 1998-99 through 2001-02. However, shipments dropped to 1.6 billion bushels during the 2002-03 marketing year, the lowest level in five years and second lowest in nine years. Most of the decline in exports last year was the result of smaller shipments to South Korea, Egypt, and Taiwan. World trade of corn last year was actually larger than the previous year. Chinese exports increased from about 340 million bushels in 2001-02 to 570 million bushels last year. In addition, Brazilian corn exports jumped from 80 million to 235 million bushels and Argentine exports increased from 425 million to 470 million bushels. The U.S. share of the corn export market declined from 64 percent to 51 percent.

A number of factors point to larger U.S. corn exports during the current marketing year. The 2003 Chinese corn crop is projected to be about 290 million bushels smaller than the 2002 crop. While the Argentine crop is expected to be 20 million bushels larger, the Brazilian crop is currently projected to be off 295 million bushels. Combined production in those three countries appears to be down 565 million bushels. In addition, the crop in Europe is estimated to be down by 630 million bushels. Small increases in production are expected in Canada, Mexico, Russia, and in southeast Asia. At 13.77 billion bushels, corn production outside of the U.S. in 2003-04 is projected to be 900 million bushel less than the crop of last year. Production of all coarse grains outside of the U.S. is projected to be down by 20.5 million tons, or about 3 percent (Table 5).

In addition to less competition from other exporters, the U.S. should benefit from a lower valued U.S. dollar. The U.S. dollar index is at the lowest value since late 1998 and nearly 25 percent lower than the highs during 2001 and early 2002.

The USDA currently projects U.S. exports during the 2003-04 marketing year at 1.8 billion bushels, up 12.5 percent from last year's shipments. During the first 5.5 weeks of the marketing year (September 1 through October 9) U.S. export shipments totaled 182 million bushels, about 21 percent more than during the same period last year. As of October 2, unshipped sales of U.S. corn stood at 333 million bushels, compared to 277 million bushels unshipped on the same date last year. Export commitments are 20 percent above those of last year. The increase is in sales to Taiwan, Egypt, and unknown destinations. Commitments to Central and South American countries are smaller than at this time last year. We are inclined to project U.S. exports for the current year at 1.875 billion bushels (Table 6).

### **Domestic Use to Increase**

Feed and residual use of corn during the 2002-03 marketing year was a surprisingly small 5.637 billion bushels. Fewer livestock numbers and increased wheat feeding in the summer of 2003 explains some of the 224 million bushel (4 percent) decline from use during the previous year. The declines in use occurred during the first and the last quarter of the year (Table 1). Since use in this category is calculated as a residual, apparent use during the first quarter can be influenced by errors in the production estimate. The 2002 crop may have been slightly larger than estimated, but probably not much.

For the 2003-04 marketing year, Feed use is expected to be supported by a modest expansion in hog numbers beginning this winter, aggressive placement of cattle into feedlots, expanding poultry numbers, minimal increases in feeding of other grains, and by high soybean meal prices. With soybean meal prices per pound more than three times the price of corn, some minimal substitution of corn for meal may occur. The USDA projects feed and residual use at 5.7 billion bushels, up about 1.2 percent from use of a year ago. We are inclined to use a slightly larger forecast of 5.75 billion bushels.

Use of corn for all seed, food, and industrial purposes grew by nearly 12 percent during the 2002-03 marketing year. Almost all of that growth was in corn for ethanol production. That category accounted for nearly 41 percent of use. The USDA projects a slower rate of growth in food and industrial use of corn during the 2003-04 marketing year. Use for ethanol production is expected to increase by about 145 million bushels (15 percent), but use for high fructose corn syrup is expected to remain unchanged. Use for all purposes is projected at 2.45 billion bushels.

Consumption of U.S. corn during the 2003-04 marketing year is projected at 10.075 billion bushels, leaving year end stocks at 1.228 billion bushels. If the crop is larger than currently forecast, ending stocks might be a bit larger. At the projected level, U.S. ending stocks would be only modestly larger than stocks at the beginning of the year. Supplies are ample. However, stocks of feed grains outside of the U.S. are expected to decline to about half the level of three years ago. Stocks in China are projected to be only 25 percent as large as stocks three years ago. In addition to declines in China this year, reductions are forecast for the European Union, Eastern Europe, and Russia. Small stocks world wide keeps the corn market vulnerable to a short fall in production.

### **Will U.S. Corn Acreage Increase in 2004?**

Record corn yields and disappointing soybean yields in 2004 have raised the possibility of some switching of acreage from soybeans to corn in 2004. A lot of factors will go into that decision so that it is too early to make a good forecast. Currently, futures prices for the 2004 crop translate into cash prices that are above the CCC loan rate for both crops. The ratio of November 2004 soybean future prices to December 2004 corn futures price is about 2.33 to 1. Generally, speaking, a ratio of 2.5 is considered to be about breakeven, although the breakeven ratio varies considerably by region and will be impacted by the magnitude of input prices in 2004.

Since 1996, when set-aside programs were eliminated, U.S. corn acreage has varied from 75.752 million acres (2001) to 80.165 million acres (1998). Acreage has been trending a little higher in Missouri and South Dakota (Table 7). Acreage in other states has not demonstrated a trend, although acreage in Illinois is well above the 1998 low of 10.8 million and acreage in Nebraska is well below the 1997 high of 8.9 million. At this time, we might expect a modest increase in corn acreage in 2004, to a total of perhaps 79.3 million acres.

### **Price Prospects**

December corn futures traded to a low of about \$2.10 in late July as growing conditions pointed to a crop of 10.5 billion bushels. A hot, dry August pushed that contract above \$2.45. Prices then moved lower following the September and October production forecasts by the USDA. The price of that contract is currently finding support just above \$2.15. Surprisingly, basis levels have generally remained strong in the early part of harvest. In central Illinois, the current average basis is \$.10 stronger than the average basis of the past five years and only \$.05 weaker than the extremely strong basis of last year when the crop was 25 percent smaller. The daily average cash price in central Illinois reached a low of \$2.00 on October 1 and has been trading between \$2.00 and \$2.05 since. The daily price has been slightly below the loan rate, with the loan deficiency payment (LDP) reaching \$.08 on October 14.

For the year, the USDA projects the U.S. average farm price in a range of \$1.90 to \$2.30. We expect the price to be in the upper end of that range, close to \$2.20 per bushel. The futures market currently reflects a marketing year average of about \$2.10. The lowest cash price of the year would be expected near the middle or end of the harvest. A larger crop forecast in November might be the right timing for a low. That low in central Illinois could be in the \$1.90 range. Typically, harvest lows in large crop years are followed by spring/summer highs that are at least \$.60 over the harvest low. If that relationship holds, cash prices could spike to \$2.50 sometime in the spring/summer of 2004.

Marketing strategies for unpriced corn will center around the loan program. For some bushels, establishing the LDP at harvest and holding the crop for a post-harvest recovery in prices seems prudent. There is a small premium for January delivery over harvest delivery. Establishing the LDP at harvest and selling (cash or futures) for later delivery might also be considered. If the LDP never gets very large, holding the crop with the protection of the loan program might be considered as well.

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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	2001-02	2002-03
	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	1,899	1,596
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	9,915	9,507	9,008
TOTAL <sup>a</sup>	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	11,639	11,416	10,619
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	489	534
Export	519	443	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	507	448	394
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	2,188	2,131	2,207	2,041
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	3,104	3,144	2,969
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	8,530	8,265	7,638
Seed, food, ind.	166	192	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	480	548
Export	470	510	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	465	415	448	407
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	1,529	1,607	1,542	1,555
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	2,488	2,471	2,510
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	5,795	5,132
Seed, food, ind.	201	228	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	545	610
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	455	497	392
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	1,058	1,153	1,161	1,150
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	2,203	2,152
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	3,597	2,985
Seed, food, ind.	193	227	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	511	540	606
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	572	485	564	511	405
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	792	890	951	951	891
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	1,871	2,026	2,002	1,902
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	1,596	1,086
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	1,957	2,054	2,298
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	1,989	1,937	1,941	1,965	1,598
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	5,468	5,665	5,842	5,861	5,637
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	9,515	9,740	9,820	9,533

<sup>a</sup> 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	2002	2003
	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	8,886	10,064
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	8,849	9,944
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	8,970	10,207
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	9,546	9,003	
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	9,507	9,008	
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	9,915	9,507		

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

Year	Planted Acreage			Actual	Harvested Acreage
	February/January Intentions	March Intentions	June Intentions		
			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 <sup>a</sup>	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	79,551	72,440
2001		76,693	76,109	75,752	68,808
2002		79,047	78,847	79,054	69,313
2003		79,022			(71,765)

<sup>a</sup> February



Table 4. 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	2002	2003		
	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	125.2	139.9		
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	125.4	138.5		
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	127.2	142.2		
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	138.0	127.6			
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	138.2	130.0			
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	136.9	138.2				

Table 5. World Coarse Grain Production

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	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	273.1	261.9	245.0	277.8
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	49.5	62.4	60.8	52.7
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	102.6	107.1	106.7	106.1	92.8
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	122.3	129.2	125.3
Central 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	54.7	37.0	51.0	50.3	47.6
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	22.6	19.9	25.9
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	31.6	34.7	25.7	32.5
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	42.7	36.8	47.0	39.2
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	19.6	22.6	19.9	25.9
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	8.4	10.5	9.6	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	876.4	859.7	892.3	869.4	881.7
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	613.2	586.5	630.5	624.4	603.9

Source: USDA, FAS, World Crop Production, Oct. 2003 and earlier issues.

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	2001-02	2002-03	2003-04 <sup>a</sup>
	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	1,596	1,086
Production	<u>7,532</u>	<u>7,934</u>	<u>7,475</u>	<u>9,477</u>	<u>6,338</u>	<u>10,051</u>	<u>7,400</u>	<u>9,233</u>	<u>9,207</u>	<u>9,759</u>	<u>9,431</u>	<u>9,915</u>	<u>9,507</u>	<u>9,008</u>	<u>10,207</u>
TOTAL <sup>b</sup>	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,416	10,619	11,303
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	1,957	2,054	2,298	2,450
Export	2,367	1,727	1,584	1,663	1,328	2,177	2,228	1,797	1,504	1,981	1,937	1,935	1,905	1,598	1,875
Feed and residual	<u>4,382</u>	<u>4,609</u>	<u>4,798</u>	<u>5,252</u>	<u>4,680</u>	<u>5,460</u>	<u>4,693</u>	<u>5,277</u>	<u>5,482</u>	<u>5,471</u>	<u>5,664</u>	<u>5,848</u>	<u>5,861</u>	<u>5,637</u>	<u>5,750</u>
TOTAL	8,120	7,761	7,915	8,471	7,621	9,352	8,548	8,789	8,791	9,298	9,515	9,741	9,820	9,533	10,075
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,086	1,228
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	\$1.97	\$2.32	\$2.20

<sup>a</sup> Projected

<sup>b</sup> Includes imports

Table 7. Planted Acreage of Corn by State

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 <sup>a</sup>
	thousand acres													
Georgia	660	600	750	650	600	400	580	550	500	350	360	265	340	370
Illinois	10,600	11,200	11,200	10,590	11,600	10,200	11,000	11,200	10,600	10,800	11,200	11,000	11,200	11,100
Indiana	5,600	5,700	6,100	5,550	6,100	5,400	5,600	5,900	5,800	5,800	5,700	5,800	5,400	5,700
Iowa	12,800	12,500	13,200	12,000	13,000	11,700	12,700	12,200	12,500	12,100	12,300	11,700	12,300	12,400
Kansas	1,600	1,800	1,850	2,000	2,280	2,150	2,500	2,750	3,000	3,150	3,450	3,450	3,250	2,900
Kentucky	1,350	1,400	1,420	1,370	1,350	1,280	1,300	1,270	1,300	1,320	1,330	1,200	1,130	1,230
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	2,250	2,300
Minnesota	6,700	6,600	7,200	6,300	7,000	6,700	7,500	7,000	7,300	7,100	7,200	6,800	7,200	7,100
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	2,800	2,950
Nebraska	7,700	8,200	8,300	8,000	8,600	8,000	8,500	8,900	8,800	8,600	8,500	8,100	8,400	8,000
North Carolina	1,200	1,050	1,150	1,000	1,000	800	1,000	960	860	750	730	700	790	740
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	3,200	3,450
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	1,450	690
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	4,400	2,000
Tennessee	620	620	740	660	670	640	770	700	700	630	650	630	690	1,450
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	2,050	4,500
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	3,650	3,700
United States	74,171	75,951	79,325	73,323	79,158	71,245	79,487	79,537	80,165	77,386	79,551	75,752	79,054	79,066

<sup>a</sup> Intentions