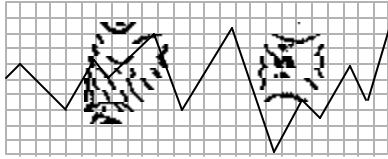




UNIVERSITY OF ILLINOIS  
EXTENSION



# Grain Price OUTLOOK

A joint publication of the Department of Agricultural Economics, College of Agriculture, Purdue University, West Lafayette, Indiana, and the Department of Agricultural and Consumer Economics, College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign.

## CORN: FOCUS ON U.S. CROP SIZE AND CHINESE EXPORTS

July 2003

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2003 – No. 5

### Summary

The USDA's June *Grain Stocks* report confirmed that U.S. corn inventories are at the lowest level in six years. The report also confirmed the USDA's projected slower rate of domestic feed and residual use of corn, meaning that year end stocks will be adequate. The short term focus will be on the prospective size of the 2003 U.S. crop, and to a lesser extent, on the size of the Chinese crop. The USDA's June 30 *Acreage* report confirmed U.S. corn plantings of just over 79 million acres. Crop condition ratings in early July pointed to the potential for at least a trend yield in 2003 and a crop in excess of 10 billion bushels. A crop of 10 billion bushels would accommodate a 6 percent increase in consumption during the 2003-904 marketing year and still maintain year ending stocks above 1 billion bushels.

Beyond the size of the U.S. crop, the magnitude of corn exports from China in 2003-04 will be important for corn prices. Chinese exports were especially large during 2002-03, but declining stocks and a smaller crop should result in a substantial reduction in exports during the year ahead. A shift towards more soybean production at the expense of corn could eventually result in little or no Chinese corn exports.

For the next two months, corn prices will follow the development of the corn crop. Large crop prospects could result in December futures declining to the \$2.00 area. For the 2003-04 marketing year, a 10.2 billion bushel crop would likely result in an average farm price near \$2.15 per bushel.

### Small U.S. and World Corn Inventories

The USDA's June 1 *Grain Stocks* report released on June 30 estimated the corn inventory at 2.985 billion bushels (Table 1). Stocks were 612 million bushels less than on the same date last year and the lowest for that date in six years. Exports during the third quarter of the year are estimated at 395 million bushels, the smallest for that quarter in 5 years. The estimate of exports, however, is confused by the on going discrepancy between the USDA and Census Bureau estimates of exports. Through May 2003, the Census Bureau had recorded cumulative exports of 1.193 billion bushels, while the USDA estimated shipments at 1.174 billion bushels. Both estimates show exports running well behind last year's pace.

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Use of corn for seed, food and industrial uses is estimated at 620 million bushels for the third quarter of the year, as increased ethanol production continues to drive use in that category to record levels. Processing use of corn through May was 12.4 percent more than use of a year ago, with all of the 190 million bushel increase attributed to ethanol production .

Feed and residual use of corn during the third quarter of the year is estimated at 1.132 billion bushels. That is only 30 million less than the record consumption of last year. Following the large decline (8 percent) in the first quarter, feed and residual use has been about equal to that of a year ago. The apparent large use during the first quarter in 2001-02 and the apparent small use this year may be influenced by errors in the estimated size of the crops.

For the year, the USDA projects corn exports at 1.6 billion bushels, 15.3 percent less than during the 2001-02 marketing year. Through July 3, with only 8.4 weeks left in the marketing year,, the USDA estimates showed corn exports running 15 percent behind the pace of a year ago.

Unshipped sales as of July 3 were reported at 200 million bushels compared to 233.6 million on the same date last year. Shipments and sales are on-target to reach about 1.585 billion bushels, based on USDA estimates. Accounting for the difference between USDA and Census Bureau estimates, shipments are expected to reach about 1.61 billion bushels, very close to the current USDA projection.

The USDA projects seed, food, and industrial use of corn for the current year at 2.31 billion bushels, 12.5 percent more than used last year. Use through the first three quarters of the year is on target to reach that projection.

Feed and residual use of corn is projected at 5.65 billion bushels, nearly 4 percent less than used last year. That projection implies that use during the fourth quarter of the marketing year will total 925 million bushels, 27 million bushels (2.8 percent) less than during the same quarter last year. That figure appears reasonable given the decline in hog numbers and the likely increase in the amount of wheat fed this summer. The USA projects use for the year at 5.7 billion bushels

It now appears that use of corn during the 2002-03 marketing year will total 9.57 billion bushels, 250 million fewer bushels than consumed last year. At 1.049 billion bushels, the projected level of year-ending stocks is 547 million bushels less than stocks at the beginning of the year and the lowest level of year ending stocks in 6 years (Table 2). However, that projection is 300 to 400 million bushels larger than the projection made at the beginning of the marketing year.

On a world-wide basis, annual corn consumption has exceeded production for three consecutive years. As a result, world inventories of corn have been reduced significantly. In two years, U.S. stocks have been reduced by 45 percent and Chinese stocks have also declined an estimated 45 percent. No other country carries large inventories of corn. The U.S. and China account for 75 to 85 percent of world stocks.

### **New Crop Prospects**

The small 2002 U.S. corn crop was met with very weak export demand and declining domestic feed and residual use. As a result, supplies were adequate to meet needs without extremely high prices. With a reduced level of U.S. and world inventories, however, the size of the 2003 U.S. crop will be extremely important for price patterns and price levels over the next several months.

In its June 30 *Acreage* report, the USDA estimated planted acreage of corn in the U.S. in 2003 at 79.066 million acres. That figure is very near the intended acreage reported in March and to actual acreage planted in 2002 (Table 3). Compared to March intentions, June acreage estimates were 100,000 acres larger in Iowa, Michigan, North Dakota, and Wisconsin; 150,000 larger in Ohio; 200,000 larger in South Dakota; and 250,000 larger in Texas. June estimates were down 100,000 acres in Kansas; down 200,000 in Illinois and Nebraska; and down 300,000 acres in Minnesota. Compared to planted acreage in 2002, the major changes in 2003 occurred in Indiana (up 300,000 acres, Ohio (up 250,000 acres), Kansas (down 350,000 acres) and Nebraska (down 400,000 acres). Only small changes occurred in Illinois and Iowa (Table 4).

In 2002, dry growing conditions resulted in more than the normal amount of corn acres harvested for silage and more abandoned acreage. The difference between acreage planted for all purposes and acreage harvested for grain was estimated at 9.741 million acres (calculated from Table 3). Prior to 2002, the last year of significant abandonment was 1993. In that year, the difference between acreage planted and harvested for grain was 10.306 million. In eight years from 1994 through 2001, the difference between planted acreage and acreage harvested for grain varied from 6.269 to 7.576 million acres. The average was 6.832 million. For 2000 and 2001, when planted acreage was near that of 2003, the difference was 7.111 million and 6.944 million, respectively. For 2003, the USDA projects acreage harvested for grain at 71.985 million, 7.081 million less than acreage planted for all purposes. That is, harvested acreage is expected to be up 2.672 million from harvested acreage of a year ago without a change in area planted. Similarly, combined planted acreage of oats, sorghum, and barley is estimated to be essentially unchanged from acreage in 2002, but area harvested for grain is projected to be up 1.774 million. Harvested area for all feed grains, then, is expected to be 4.446 million acres (5.4 percent) more in 2003 than in 2002. With about six weeks of critical growing season still to unfold, it appears that the USDA projection of significantly fewer abandoned acres in 2003 is still on target. As of July 7, 73 percent of the corn crop, 65 percent of the sorghum crop, 76 percent of the barley crop, and 77 percent of the oats crop were rated in good or excellent condition. The ratings on the same date last year were, 53 percent, 39 percent, 57 percent and 45 percent, respectively.

For corn, the best crop conditions were reported in Iowa, Minnesota, and the Dakotas. Poor ratings were found in Indiana, Ohio, and Texas. With the stress of summer weather over the next few weeks, it may be difficult for overall crop ratings to improve much above the lofty levels of early July as ratings generally reflect appearance of the crop.

Based on crop conditions ratings in early July and a generally favorable short term weather outlook, yield prospects remain good. There is some concern about some later than normal maturity of the crop in Illinois, Indiana, and Iowa, but those crops are progressing at about the same pace as last year. Significant problems from heat during pollination or from an early freeze are not anticipated.

With the usual caveats about the remainder of the growing season, it appears that the 2003 U.S. crop is on target for an above trend yield (and record yield) of about 142 bushels per acre. There is some discussion of the potential to be well above the long term trend in 2003. With harvested acreage of 72 million and a yield of 142 bushels, the 2003 crop would total a record 10.224 billion bushels, 173 million above the 1994 record of 10.051 billion (Table 6).

With prices at “modest” levels in the 2003-04 marketing year, consumption of U.S. corn is expected to increase over the level of use during the current year. The growth is expected to be spurred by continued growth in ethanol production and a recovery in exports. The USDA projects a 190 million bushel increase in corn used for seed, feed, and industrial purposes in the year ahead. All of that increase would be in ethanol production. The expected growth rate is still modest compared to the 256 million bushel increase experienced during the current year.

U.S. corn exports are expected to get a boost during the year ahead from a 215 million bushel (37 percent) decline in Chinese corn exports, larger imports by Mexico, increased consumption of corn outside the U.S., increased world trade, and a slightly weaker U.S. dollar. The increase in U.S. exports will likely be limited by smaller Canadian imports and modest growth in Asian demand. The USDA currently projects U.S. exports during the year ahead at 1.85 billion bushels. Many of the factors that influence U.S. exports are subject to change so that this projection must be considered to be highly tentative. Since 1981, the final USDA export estimate for the year has been below the July projection 8 times and above the July projection 14 times. The average difference between the July projection and the final estimate was 17 percent.

Feed and residual use of corn during the year ahead, assuming modest corn prices, is expected to be near the level of the current year. Hog numbers appear to be scheduled to decline through the first half of 2004 and more sorghum will be available for feeding cattle. Corn use is projected at 5.6 billion bushels, but will be dependent upon crop size and price level.

Use for all purposes during the 2003-04 marketing year is projected at 10 billion bushels, 430 million (4.5 percent) more than the projection for the current year. Based on a crop of 10.224 billion bushels, use at that level would leave year ending stocks at 1.283 billion bushels (Table 2). From another perspective, use at 10 billion bushels would require a 2003 average yield of 138.9 bushels per acre in order to prevent a decline in stocks next year. A yield of 138.1 bushels would be required to maintain stocks above 1 billion bushels.

### **Corn Prices**

This past year, was not a “classic” short crop year, but production was well below the level of use of the previous four years and did result in a draw down in stocks. Prices behaved in a classic short crop pattern – peaking in September just before harvest and reaching a low (to date) in July. December 2002 futures traded to a high of \$2.96. The unique characteristic of prices, however, was the extremely narrow trading range from October 2002 through June 2003. The following table illustrates the average monthly price received by U.S. farmers and the average monthly price offered in central Illinois so far this year.

Month	U.S. Average Price Received	Central Illinois Average Price Offered
	\$/bu	
Sept. 2002	\$2.47	\$2.57
Oct.	2.34	2.41
Nov.	2.27	2.36
Dec.	2.32	2.32
Jan. 2003	2.33	2.28
Feb.	2.34	2.33
March	2.33	2.31
April	2.34	2.36
May	2.38	2.4
June		2.36

The weighted average U.S. average price received by farmers will likely be near \$2.32 for the 2002-03 marketing year. That is exactly equal to the price that would result in no counter cyclical payment under the new farm bill.

December 2003 futures traded to a high of \$2.60 in September 2002, and has a life of contract high of \$2.69. The life of contract low of \$2.15 was reached on July 11, 2003. At the \$2.20 level, December futures results in harvest bids at or below the loan rate in many areas. With prices at that level, there is no urgency in pricing additional quantities of the 2003 crop.

With a critical part of the growing season remaining, prices for the 2003 crop may have reached at least a temporary bottom. Price volatility will likely increase from mid-July through mid-August as growing season weather unfolds. A recovery back to \$2.35, basis December futures, would be expected with some extended hot, dry weather. A move back to the spring highs between \$2.50 and \$2.55 would require some significant crop concerns. The next few weeks could offer some opportunities for additional sales if prices move above the loan rate.

The current trading range of \$.54 for December 2003 futures is very low by historic standards. The smallest trading ranges since 1973 occurred for the 1987 contract (\$.5425) and the 1991 contract (\$.55). If a 10.2 billion bushel or larger crop does materialize, the December contract may decline under \$2.00. Based on trend yield expectations, the average cash price for the year ahead may be near \$2.15 per bushel. An average price below \$2.32 would result in a counter cyclical payment.

Currently, the 2003-04 price structure is offering little incentive to store the 2003 crop. In central Illinois, for example, the harvest basis is currently the strongest in at least five years. The carry in the futures market is small – \$.07 from December 2003 to March 2004 and \$.18 from December 2003 to July 2004. Storage appears attractive only for farm stored corn under loan. The size of the crop could alter the carry in the market between now and harvest. The size of the carry should influence the delivery date of any additional cash sales and the management of short futures positions.

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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	396
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	2,040
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	2,970
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	451	409
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	1,540	1,553
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	620
Export	596	475	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	455	496	395
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	1,162	1,132
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	2,147
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	
Export	412	393	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	572	485	564	510	
Feed, residual	739	781	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	792	890	951	952	
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	
September 1 stocks Annual	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	
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	
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	
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	
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	

<sup>a</sup> Includes imports for the entire year.

Table 2. 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	1,049
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>10,224</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	11,283
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	2,310	2,500
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	1,600	1,850
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>5,650</u>	<u>5,650</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	9,570	10,000
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,049	1,283
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	\$2.15

<sup>a</sup> Projected

<sup>b</sup> Includes imports

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			(71,985)

<sup>a</sup> February



Table 4. 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	690
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	2,000
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

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	2002	
	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	
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	
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	
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 6. 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
	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
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
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
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		

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	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	283.6
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	52.5
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	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	122.3	129.2	125.3
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	54.7	37.0	51.0	50.1	48.2
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	19.6	28.2
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	25.1	30.5
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	36.9	45.2	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	18.7	19.4	20.0
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	892.4	865.4	907.6
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	630.6	620.3	624.1

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