



Grain Price OUTLOOK



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CORN: LARGE STOCKS, A FEW MORE ACRES

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Summary

March 1, 2005 stocks of corn were a little larger than expected and provide additional evidence that domestic feed and residual use will fall short of early projections. Year ending stocks may be the largest in 17 years. The USDA's March survey also revealed that producers plan to plant 81.4 million acres of corn in 2005, about 480,000 more than planted in 2004, but less than generally expected. The biggest surprise may be the intentions to reduce corn plantings by 550,000 acres in the Dakotas. Those acres (as well as fewer soybean acres) will be replaced by spring wheat, canola, and sunflowers.

A return to a trend yield of about 145 bushels in 2005 would produce a crop of about 10.75 billion bushels. Use during the current marketing year will be near 10.5 billion, but could expand to over 11 billion in the 2005-06 marketing year. The combination of a smaller crop and increased use would result in a 2005-06 year and stocks of 1.9 to 2.0 billion bushels. The 2005 crop would have to be near 9.8 billion bushels (yield of 132 bushels) to bring year ending stocks below 1 billion bushels.

A trend yield in 2005 projects to a 2005-06 marketing year average farm price of about \$2.15, up from the \$2.05 expected for the current marketing year. On April 11, the futures market reflected a 2005-06 marketing year average farm price of \$2.20.

Use of 2004 Crop is Disappointing

The large 2004 U.S. corn crop resulted in a sharp decline in prices from the spring through the fall of 2004. Early projections, however, were for a significant increase in domestic use and exports of corn, resulting in a manageable level of year-ending stocks. Early season projections were for year ending stocks of 1.7 to 1.8 billion bushels. However, the 2004 crop estimate increased by nearly 200 million bushels from October 2004 to January 2005, the projection of marketing year exports declined by 250 million bushels from September 2004 to April 2005, and now it appears that feed and residual use will be 175 million bushels less than projected in March. The March 1, 2005 inventory of corn was estimated at 6.754 billion bushels, implying that second quarter feed and residual use of corn was only slightly larger than that of a year ago. That follows an increase of only 15 million bushels during the first quarter of the 2004-05 marketing year (Table 1). If small

increases are experienced in the final two quarters, use for the year total only 5.9 billion bushels. At that level, use would be only 102 million bushels (2 percent) larger than use of a year ago.

In September 2004, the USDA projected 2004-05 marketing year exports at 2.1 billion bushels, 200 million more than exported in the 2003-04 marketing year. Reduced competition from Chinese corn was the major source of optimism about U.S. exports. As it turns out, however, the large world wheat crop of 2004 provided a lot of competition for corn. While feed use of corn outside the use is projected to be up by 600 million bushels (5 percent) during the current marketing year world corn trade is projected to be down by 85 million bushels (3 percent). Feed use of wheat outside the U.S. is expected to be up by 430 million bushels (13 percent), with much of that increase occurring in Europe.

For the first 7 months of the 2004-05 marketing year (September 2004 through March 2005), the USDA reported corn export inspections of 1 billion bushels. Through January 2005, however, cumulative exports as reported by the Census Bureau were 68 million bushels (9 percent) larger than export inspections. If that relationship continued through the first week of April, exports were actually near 1.12 billion bushels. To reach the USDA projection of 1.8 billion for the year, shipments need to average 33 million per week during the last 21 weeks of the marketing year. That compares to an estimated average of 36 million per week during the first 31 weeks of the year. As of March 31, the USDA reported unshipped export sales of 291 million bushels. Unshipped sales at this time last year stood at 356 million bushels. Compared to last year's shipments and sales, the decline so far this year is to

Taiwan, Mexico, and "unknown" destinations. To reach the USDA projection for the year, new sales need to average about 18 million bushels per week from April 1 through August 31, 2005. Sales since the week ending February 3, 2005 have averaged nearly 35 million per week but totaled only 26 million in the most recent reporting week. There is some chance that exports for the year will be a bit larger than currently projected. We are using a forecast of 1.8 billion bushels (Table 2).

Domestic processing use of corn is expected to be up by 223 million bushels during the current marketing year, to a total of 2.760 billion bushels. That increase reflects a projected 232 million bushel increase in the amount of corn used for ethanol. Use of U.S. corn for all purposes during the current marketing year is projected at a record 10.51 billion bushels, leaving year ending stocks of 2.265 billion bushels (Table 2). That level of stocks is the largest, in both absolute terms and as a percentage of use, since the 1987-88 marketing year. At 21.6 percent, the projected year ending stocks-to-use ratio is still modest relative to the mid 1980s when the farmer-owned-reserve program was in effect.

Corn Acreage to Increase

In spite of low corn prices and increasing costs of production, U.S. producers intend to increase corn acreage in 2005. Those intentions were reported in the USDA's *Prospective Plantings* report released on March 31. The survey data was collected during the first two weeks of March. The largest increase of 300,000 acres (9.7 percent) is planned in Kansas, with smaller increases planned in Illinois, Indiana, Iowa, Missouri, and Nebraska. Significant reductions are planned in North Dakota

(300,000 acres, or 17 percent) and South Dakota (250,000 acres, or 5 percent). In total, planting intentions for 2005 are at 81.413 million acres, 483,000 more than planted in 2004 and the largest acreage since 1985 (Table 3). In general, corn planting intentions were about 1 million acres less than expected.

Historically, planted acreage of corn has deviated in both directions from March intentions. Since 1996, the first year of farm policy without acreage reduction provisions, actual plantings have been as much as 1.9 million larger than intentions (2004) and as much as 1.9 million less than intentions (1997). Actual acreage in 2005 is most likely to be influenced by planting season weather. At this writing, there appears to be no indication of weather conditions that would significantly delay corn planting and reduce acreage from intentions. On the other hand, there was no apparent indication that acreage would exceed intentions.

If 81.4 million acres of corn are planted in 2005, about 74.1 million acres would likely be harvested for grain under generally favorable growing conditions. A trend yield near 145 bushels would result in a 2005 harvest of 10.75 billion bushels, about 1 billion bushels less than the 2004 harvest.

If world wheat and coarse grain crops are smaller in 2005 than the bumper crops of 2004, export demand for U.S. corn should increase during the 2005-06 marketing year. That demand would be further strengthened if China continues to reduce corn exports. Chinese exports totaled about 600 million bushels in 2002-03, about 300 million bushels last year and are projected at about 160 million bushels for the current year. Net exports may be close to zero in the 2005-06 marketing year. U.S. corn exports during the 2005-06 marketing year could reach the 2.15 billion bushel level (Table 2).

Domestic feed and residual use of corn during the 2005-06 marketing year should be supported by expanding poultry production, slight increases in pork production, generally profitable livestock prices, and reduced competition from other feed grains. Producers reported intentions to reduce acreage of sorghum by 86,000 acres and acreage of barley by 553,000 acres. Planted acreage of oats is expected to be up by 182,000 acres. We project feed and residual use of corn during the 2005-06 marketing year at 6 billion bushels if production is near 10.75 billion bushels.

The rate of increase in ethanol production may slow a bit during the year ahead as surplus production keeps pressure on prices. We project an increase of 175 million bushels, bringing total processing use to 2.935 billion bushels. With adequate supplies and modest prices, use of corn during the 2005-06 marketing year is projected at 11.085 billion bushels, leaving year ending stocks of 1.940 billion, or 17.5 percent, of use.

Price Prospects

Corn prices declined dramatically from the spring of 2004 through the harvest of 2004 crop. The central Illinois spot cash price of corn declined from a high of \$3.145 on April 8, 2004 to a low of \$1.695 on November 4, 2005. Prices recovered in the post harvest period, briefly exceeding \$2.00 per bushel in mid-March 2005. The March rally was not supported by corn market fundamentals so that the cash price declined by \$.20 into early April. During the period of higher prices in March, the central Illinois basis remained weak, with the average cash price still \$.25 under July futures in early April.

On a monthly basis, the U.S. average farm price ranged from a high of \$2.20 in

September 2004 (reflecting pre-harvest sales at relatively high prices) to a low of \$1.95 in February 2005. The weighted average price during the first 7 months of the marketing year was likely near \$2.10 per bushel. With only about 30 percent of the crop likely remaining to be priced, the average price for the 2004-05 marketing year will likely be between \$2.05 and \$2.10 per bushel.

Based on the relationship between year-ending stocks (as a percentage of use) and the average farm price during the period 1998-99 through 2003-04, the projected stocks to use ratio of 21.6 percent for the current year suggests a marketing year average price of \$1.82. Based on the same relationship during the period 1989-90 through 1997-98, the projected level of stocks suggests an average price of \$2.22. The actual average price appears as though it will be between these two projections.

For the 2005-06 marketing year, the projected stocks-to-use ratio of 17.5 percent projects to an average farm price between \$1.92 and \$2.29. For the time being, it appears that an average near the upper end of the range should be expected. We are using a projection of \$2.15. At the close of trade on April 11, the futures market reflected a 2005-06 marketing year average price of \$2.20, assuming basis levels near the three year average and that producers' marketing patterns follow the average of the past 5 years.

For the most part, the pattern of prices and the average price for the 2005-06 marketing year will be determined by the nature of the growing season and the size of the 2005 harvest. If consumption has been correctly forecast, every 100 million bushel deviation from the projected crop size of 10.75 billion

bushels would alter the average price projection by \$.02 to \$.03 per bushel.

Since use of corn is expected to expand during the year ahead and the 2004 crop is expected to be smaller than the record crop of 2005, prices could become quite volatile during the 2005 growing season. To date, December 2005 corn futures have traded in a fairly wide range, from a high of \$2.885 in April 2004 to a low of \$2.265 in January 2005. Still, the range of \$.62 is near the low end of experience dating back to 1971. The December contract has had a trading range of \$.62 or less only four times in the previous 34 years. Currently December 2005 futures are trading near the low end of its range. The recent high was \$2.495 reached on March 15, 2005.

Pricing strategies for the 2005 crop will be influenced by the relationship between the market price and the CCC loan rate. Aggressive selling at prices marginally above the loan rate is not recommended. Significant sales should probably wait on opportunities for prices well above the loan rate, particularly this early in the marketing window for the 2005 crop that extends for another 16 months. Periods of weather and crop concerns early in the growing season could propel December 2005 futures into \$2.50 to the \$2.60 level, while significant problems in July could result in prices challenging the current contract high. Initial targets for selling additional quantities of the 2005 crop, then, are in the \$2.50 to \$2.60 range. Those interested in being aggressive at those price levels might consider use of options to manage the price risk associated with summer weather.

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Table 1. Corn Quarterly Balance Sheet

	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	2003-04	2004-05
	million bushels																					
September 1 stocks	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	1,087	958
Production	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	9,503	8,968	10,089	11,807
TOTAL ^a	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	11,640	11,412	10,578	11,190	12,780
September-November																						
Seed, food, ind.	227	244	276	295	296	302	312	338	361	370	383	410	417	388	435	450	459	466	492	549	588	639
Export	493	503	415	318	396	471	582	383	421	488	435	449	660	487	380	450	535	507	448	393	470	497
Feed, residual	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	2,200	1,986	2,167	2,182
TOTAL	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	3,140	2,928	3,226	3,318
December 1 stocks	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	7,954	9,451
Seed, food, ind.	212	236	262	281	288	301	313	330	362	365	379	410	405	400	425	434	447	465	482	563	609	663
Export	506	580	460	313	405	502	682	471	362	463	330	590	562	525	380	465	465	415	448	390	499	443
Feed, residual	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	1,557	1,578	1,594
TOTAL	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	2,686	2,700
March 1 stocks	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	5,271	6,754
Seed, food, ind.	253	294	307	333	337	353	376	384	414	414	423	452	433	471	470	495	512	514	539	617	676	
Export	513	475	201	496	510	592	601	454	371	411	270	568	610	433	350	497	451	455	497	393	469	
Feed, residual	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	1,166	1,141	1,161	
TOTAL	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	2,151	2,306	
June 1 stocks	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	2,970	
Seed, food, ind.	238	293	307	324	331	341	369	374	396	407	429	442	373	460	475	467	496	512	532	611	664	
Export	374	292	151	365	406	463	503	419	430	301	293	570	396	353	394	572	485	564	512	411	459	
Feed, residual	527	603	499	761	843	685	627	679	816	891	789	846	527	809	865	792	890	951	958	879	892	
TOTAL	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	2,027	2,002	1,900	2,014	
September 1 stocks	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	1,087	958	
Annual																						
Seed, food, ind.	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	2,046	2,340	2,537	
Export	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	1,905	1,588	1,897	
Feed, residual	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	5,864	5,563	5,798	
TOTAL	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	9,741	9,815	9,491	10,232	

^a Includes imports for t

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	2004-05	2005-06 ^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	1,596	1,087	958	2,265
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>9,503</u>	<u>8,968</u>	<u>10,089</u>	<u>11,807</u>	<u>10,750</u>
TOTAL ^b	9,464	9,282	9,016	10,584	8,472	10,910	8,974	9,672	10,099	11,085	11,232	11,659	11,412	10,578	11,190	12,775	13,025
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	2,046	2,340	2,537	2,760	2,935
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	1,588	1,897	1,850	2,150
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>5,864</u>	<u>5,563</u>	<u>5,798</u>	<u>5,900</u>	<u>6,000</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	9,815	9,491	10,232	10,510	11,085
Carryout	1,344	1,521	1,100	2,113	850	1,558	426	883	1,308	1,787	1,718	1,899	1,596	1,087	958	2,265	1,940
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	\$2.42	\$2.05	\$2.15

^a Projected^b 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 ^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	79,551	72,440
2001		76,693	76,109	75,702	68,768
2002		79,047	78,847	78,894	69,330
2003		79,022	79,066	78,603	70,944
2004		79,004	80,968	80,930	73,632
2005		81,413			

^a 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	2004	
	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	148.9	
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	149.4	
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	142.2	158.4	
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	143.2	160.2	
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	142.2	160.4	
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	129.3	142.2		

Table 5. 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	2004
	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	10,923
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	10,961
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	11,613
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	10,278	11,741
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	10,114	11,807
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	9,503	8,967	10,089	