



Ethanol Usage Projections & Corn Balance Sheet (mil. bu.)

Updated: 12/18/2009

Year: (production/marketing) ^{1/}

Yield (bu. per acre)

Long-term Historical Yield Probability:

Supplies:

Planted acres (million)

Harvested acres (million)

Production (mil. bu.)

Beginning carryover (mil. bu.)

Total Supply (incl. imports)

Total Usage: (mil. bu.)

Feed & residual ^{2/}

Ethanol

Food, ind. & seed

Exports

Total Usage

Ethanol Usage: ^{3/}

Ethanol usage (bu. corn)

DDGS production (mil. bu. corn equiv.) ^{4/}

Ethanol usage (bu. per acre)

DDGS production (bu. per acre equiv.)

Ethanol usage (% corn production)

DDGS production (corn equiv. % of crop)

Mil. bu. increase in ethanol vs. prev. year

Ending Carryover: (mil. bu.)

Carryover as percent of supply

Carryover, weeks of total use

Prices:

U.S. weighted avg. farm price

Iowa weighted avg. farm price

Counter-cyclical pmt.

Harvest price (central Iowa)

Dec. futures price (harvest avg.)

Other:

Feed use % chg. low-yield years vs. 2007-08

Mil. bu. domestic corn feeding replaced by increased DDGS ^{3/}

Mil. bu. corn exports replaced by increased DDGS

DDGS

Mil. bu. change in corn feeding vs. prev. year

% change in corn feeding vs. prev. year:

Net change in domestic corn feeding (mil. bu.) vs. prev. yr., incl. DDGS

	Historic				Prelim. 2008-09	Projected 2009-2010 ^{5/}			Projected 2010-2011		
	2004-05	2005-06	2006-07	2007-08		Low	Med.	High	Low	Med.	High
Yield (bu. per acre)	160.4	147.9	149.1	150.7	153.9	160.0	162.9	164.0	150.0	159.0	164.0
Long-term Historical Yield Probability:									18%	65%	17%
						Med. Yld. = USDA Nov. estimate					
Supplies:											
Planted acres (million)	80.9	81.8	78.3	93.5	86.0	86.4	86.4	86.4	88.5	88.5	88.5
Harvested acres (million)	73.6	75.1	70.6	86.5	78.6	79.0	79.3	79.5	80.9	81.5	81.5
Production (mil. bu.)	11,807	11,114	10,535	13,038	12,101	12,640	12,921	13,038	12,135	12,959	13,366
Beginning carryover (mil. bu.)	958	2,114	1,967	1,304	1,624	1,674	1,674	1,674	1,450	1,450	1,450
Total Supply (incl. imports)	12,776	13,237	12,514	14,362	13,739	14,325	14,605	14,720	13,600	14,420	14,830
Total Usage: (mil. bu.)											
Feed & residual ^{2/}	6,158	6,155	5,598	5,913	5,254	5,400	5,500	5,500	5,050	5,250	5,275
Ethanol	1,323	1,603	2,117	3,049	3,677	4,250	4,275	4,280	4,450	4,650	4,700
Food, ind. & seed	1,363	1,378	1,371	1,338	1,276	1,275	1,280	1,280	1,270	1,280	1,285
Exports	1,818	2,134	2,125	2,437	1,858	2,075	2,100	2,125	1,875	1,950	1,975
Total Usage	10,662	11,270	11,210	12,737	12,065	13,000	13,155	13,185	12,645	13,130	13,235
Ethanol Usage: ^{3/}											
Ethanol usage (bu. corn)	1,323	1,603	2,117	3,049	3,677	4,250	4,275	4,280	4,450	4,650	4,700
DDGS production (mil. bu. corn equiv.) ^{4/}	282	347	466	681	832	975	980	981	1,019	1,065	1,077
Ethanol usage (bu. per acre)	18	21	30	35	47	54	54	54	55	57	58
DDGS production (bu. per acre equiv.)	4	5	7	8	11	12	12	12	13	13	13
Ethanol usage (% corn production)	11.2%	14.4%	20.1%	23.4%	30.4%	33.6%	33.1%	32.8%	36.7%	35.9%	35.2%
DDGS production (corn equiv. % of crop)	2.4%	3.1%	4.4%	5.2%	6.9%	7.7%	7.6%	7.5%	8.4%	8.2%	8.1%
Mil. bu. increase in ethanol vs. prev. year	155	280	514	932	628	573	598	603	175	375	425
Ending Carryover: (mil. bu.)	2,114	1,967	1,304	1,624	1,674	1,325	1,450	1,535	955	1,290	1,595
Carryover as percent of supply	16.5%	14.9%	10.4%	11.3%	12.2%	9.2%	9.9%	10.4%	7.0%	8.9%	10.8%
Carryover, weeks of total use	10.3	9.1	6.0	6.6	7.2	5.3	5.7	6.1	3.9	5.1	6.3
Prices:											
U.S. weighted avg. farm price	\$2.06	\$2.00	\$3.04	\$4.20	\$4.06	\$4.00	\$3.60	\$3.50	\$4.45	\$3.80	\$3.60
Iowa weighted avg. farm price	\$1.96	\$1.95	\$2.99	\$4.15	\$4.01	\$3.95	\$3.55	\$3.45	\$4.40	\$3.75	\$3.55
Counter-cyclical pmt.	\$0.30	\$0.35	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Harvest price (central Iowa)	\$1.60	\$1.40	\$2.80	\$3.30	\$3.50	\$3.70	\$3.70	\$3.70	\$4.15	\$3.40	\$3.30
Dec. futures price (harvest avg.)	\$1.98	\$2.00	\$3.15	\$3.80	\$3.85	\$4.05	\$4.05	\$4.05	\$4.85	\$3.95	\$3.85
Other:											
Feed use % chg. low-yield years vs. 2007-08											
Mil. bu. domestic corn feeding replaced by increased DDGS ^{3/}	28	52	100	172	107	112	116	117	23	60	69
Mil. bu. corn exports replaced by increased DDGS	8	13	18	43	44	31	32	31	17	25	27
Mil. bu. change in corn feeding vs. prev. year	363	-3	-557	315	-659	146	246	246	-450	-250	-225
% change in corn feeding vs. prev. year:	6.3%	0.0%	-9.0%	5.6%	-11.2%	2.8%	4.7%	4.7%	-8.2%	-4.5%	-4.1%
Net change in domestic corn feeding (mil. bu.) vs. prev. yr., incl. DDGS	391	49	-457	487	-552	258	362	363	-427	-190	-156

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Notes:

^{1/} Marketing year - starts at Sept. 1 of the production year and ends August 31 of the following year. For example, the 2007 crop is marketed from Sept. 1, 2007 to August 31, 2008.

^{2/} Increase for 2009-10 is based on increased residual use from field losses & spoilage in storage plus reduced feed conversion from lower test weights, as well as reduced sorghum and barley feeding.

^{3/} DDGS substitution for corn feeding is based on 17 lbs. of DDGS per bushel of corn. Assumed DDGS consumption by species varies by year. Current estimates: of the 81% of production consumed domestically after deducting exports is as follows: 36% fed to dairy, 52% fed to beef, 6% fed to hogs, and 6% fed to poultry. Exports are assumed to account for 19% of production, and to gradually increase the future. Assumed percentage of one pound of corn replaced by each pound of DDGS in rations = 45% for dairy, 100% for beef, 55% for poultry and 85% for hogs.

^{4/} Includes corn equivalent of DDGS exports

^{5/} Long-term probabilities reflect historical changes to final crop estimates.

^{6/} Medium yield at 159 bushels/acre is 0.6 bu. below 1990-2007 trend yield. 1995-2007 yield trend is modestly higher, with two low years and one very high year tilting the trend line upward (See alternative yield trend chart). Actual yield has been below the 1995-07 trend all but one year (2004 and possibly 2009) since 2002. Actual yield has been below the 1990-2007 trend all except two years since 2004 and may exceed it in 2009.

Key Balance Sheet Assumptions:

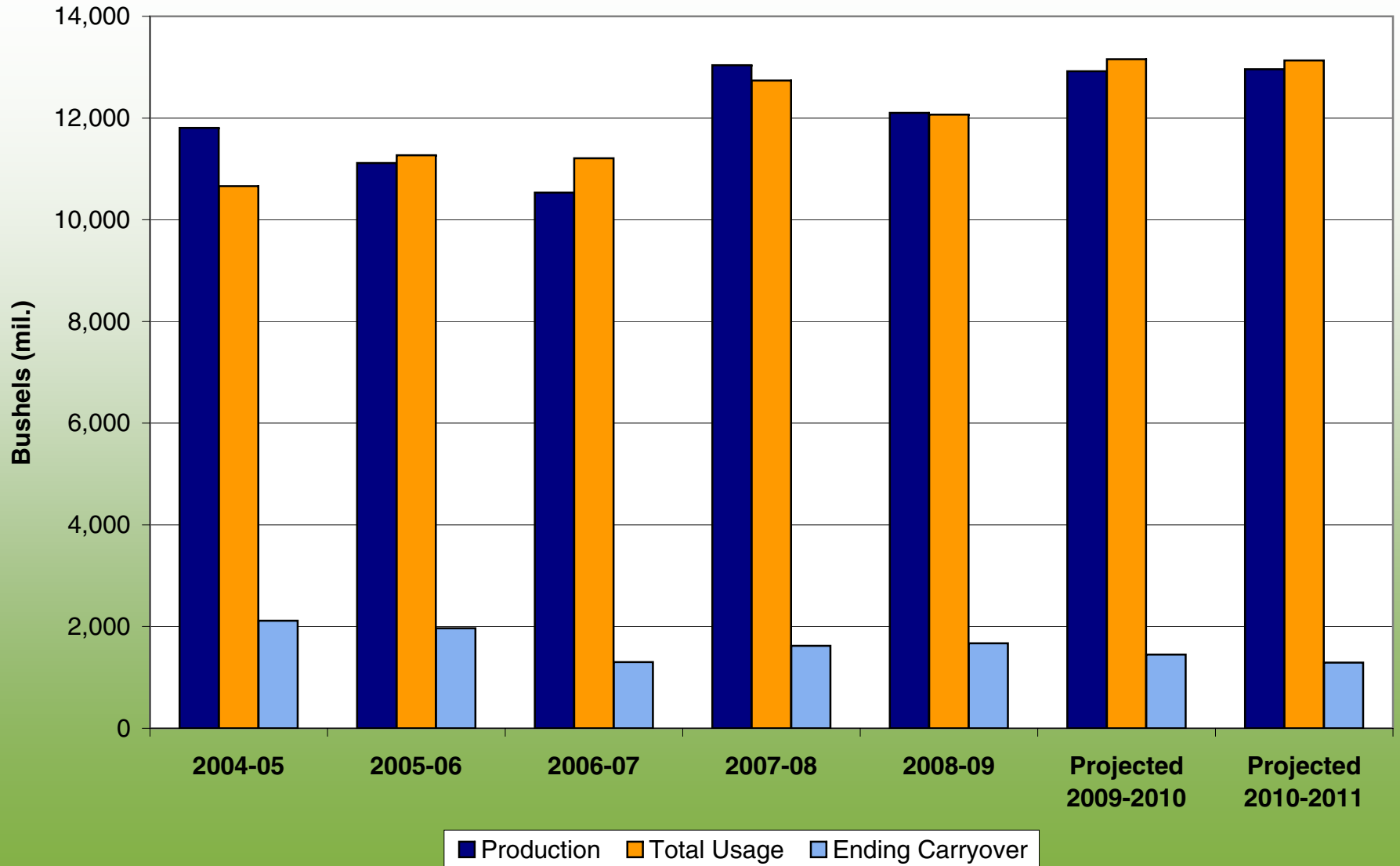
1. No changes in Conservation Reserve Program.
2. Crude oil (petroleum) price stays in \$60-\$75/barrel range for the rest of 2008-09, then gradually increases in the next two years.
3. U.S. Ethanol mandates, blending credit, and import tariff are unchanged & enforced, & allowable blend is raised to E-15, effective in late 2010 for 2001 and newer vehicles.
4. U.S. & World economies have slow growth through 2010.
5. U.S. dollar gradually weakens to 2012.
6. U.S. biodiesel mandate is implemented for 2010 but not 2009 & excess RINs keep biodiesel use below mandate.

... and justice for all

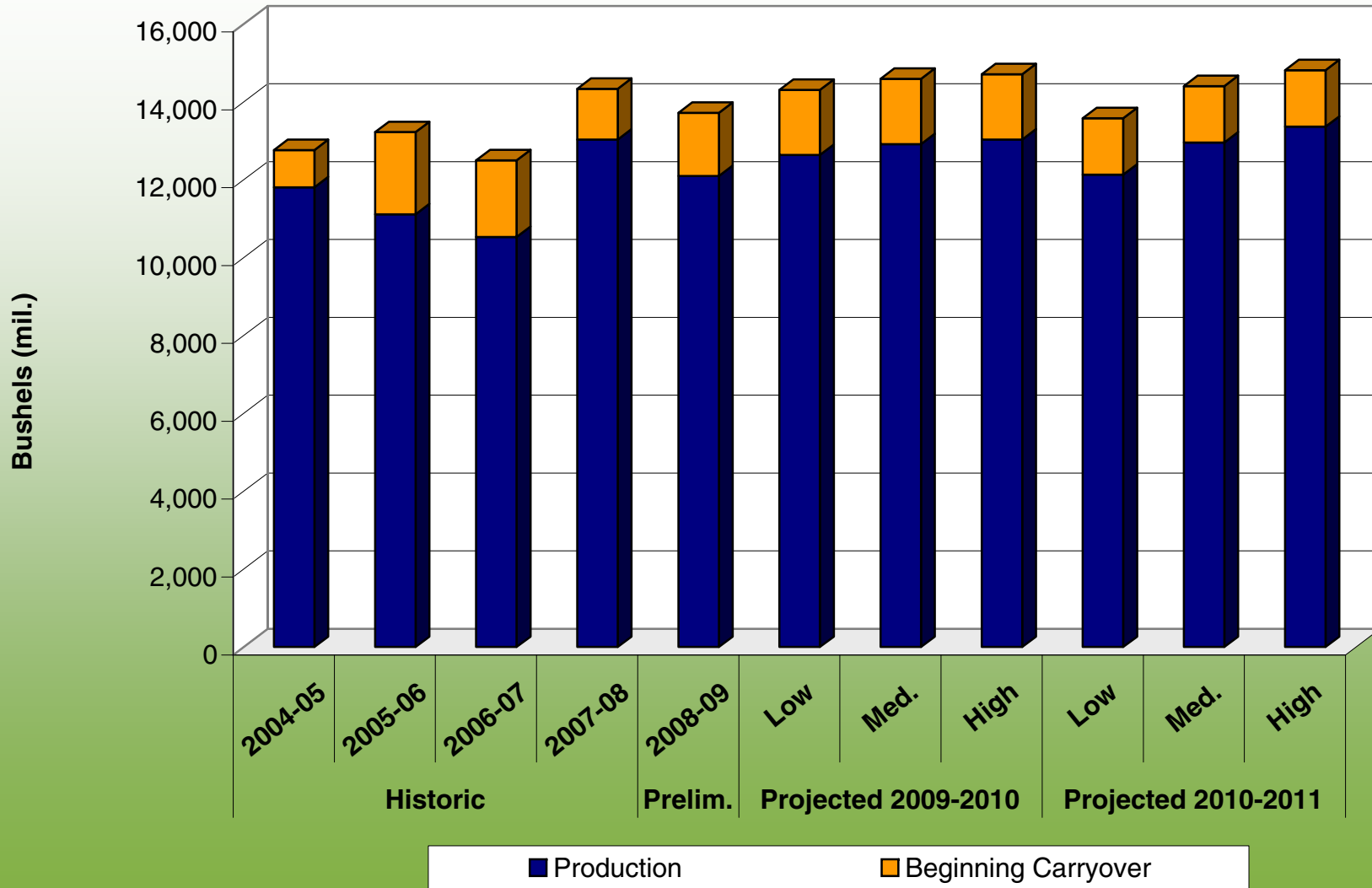
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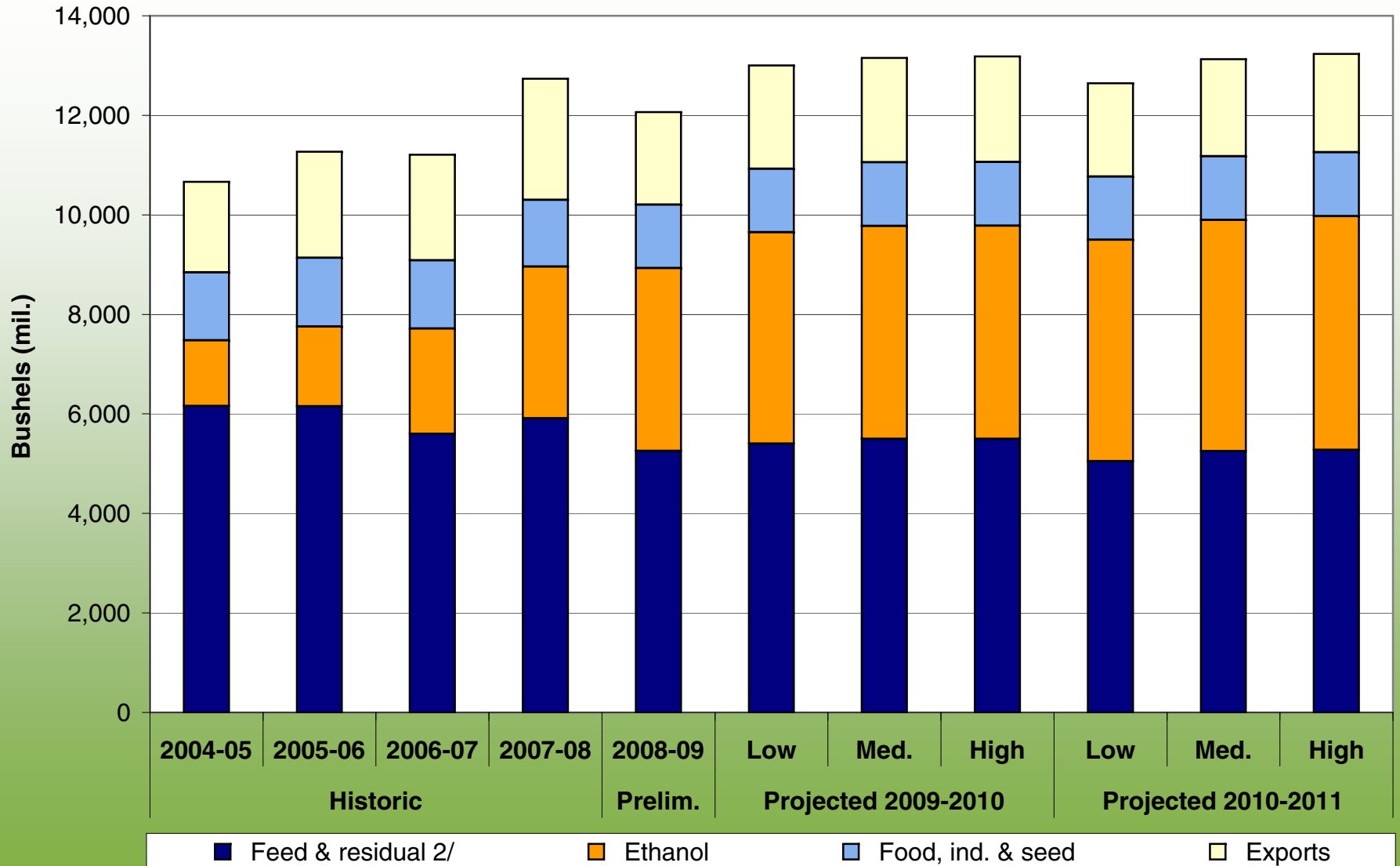
Corn Production, Usage and Ending Carryover



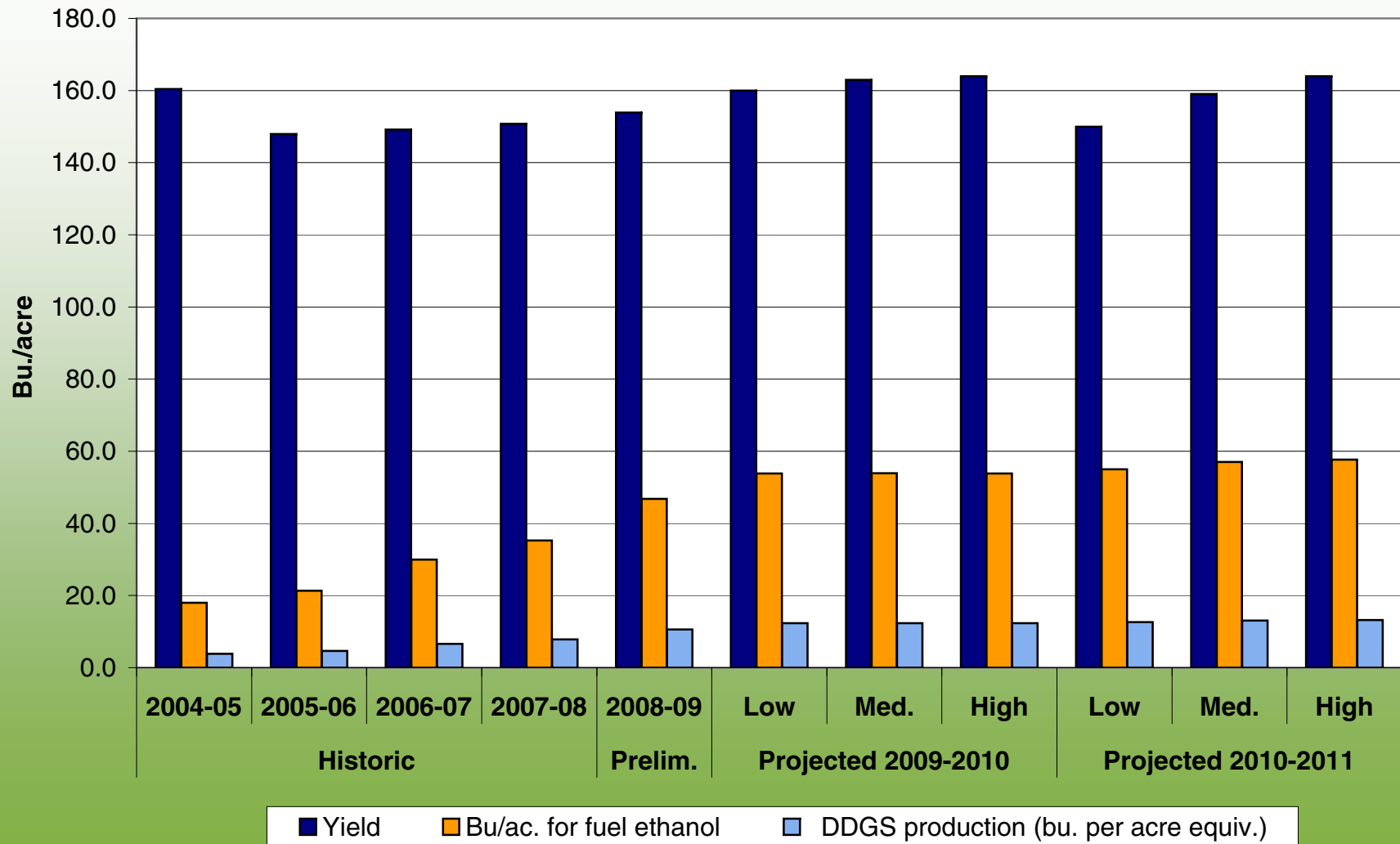
Total Corn Supply (beginning carryover and production)



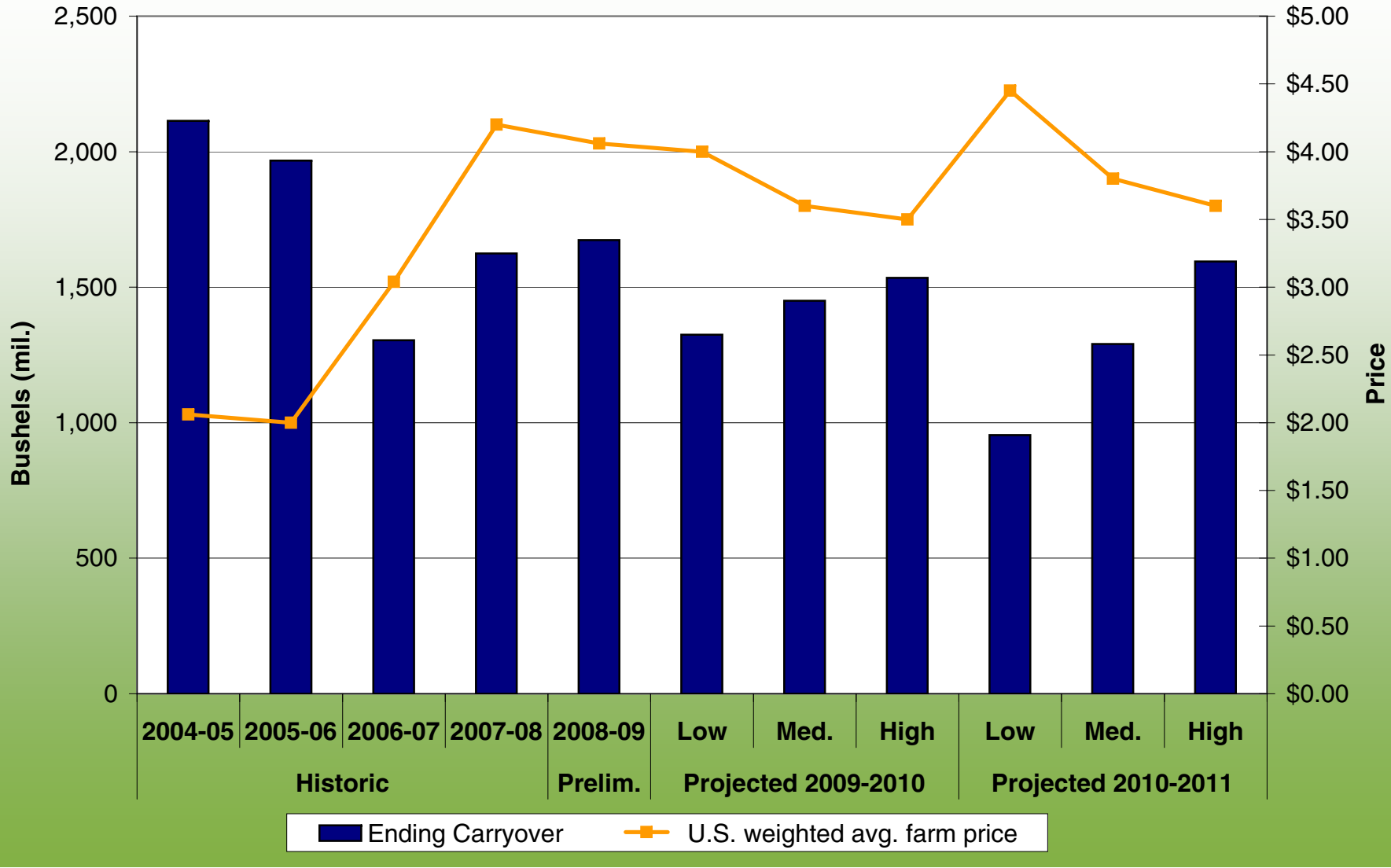
Corn Usage (feed, ethanol, exports and other)



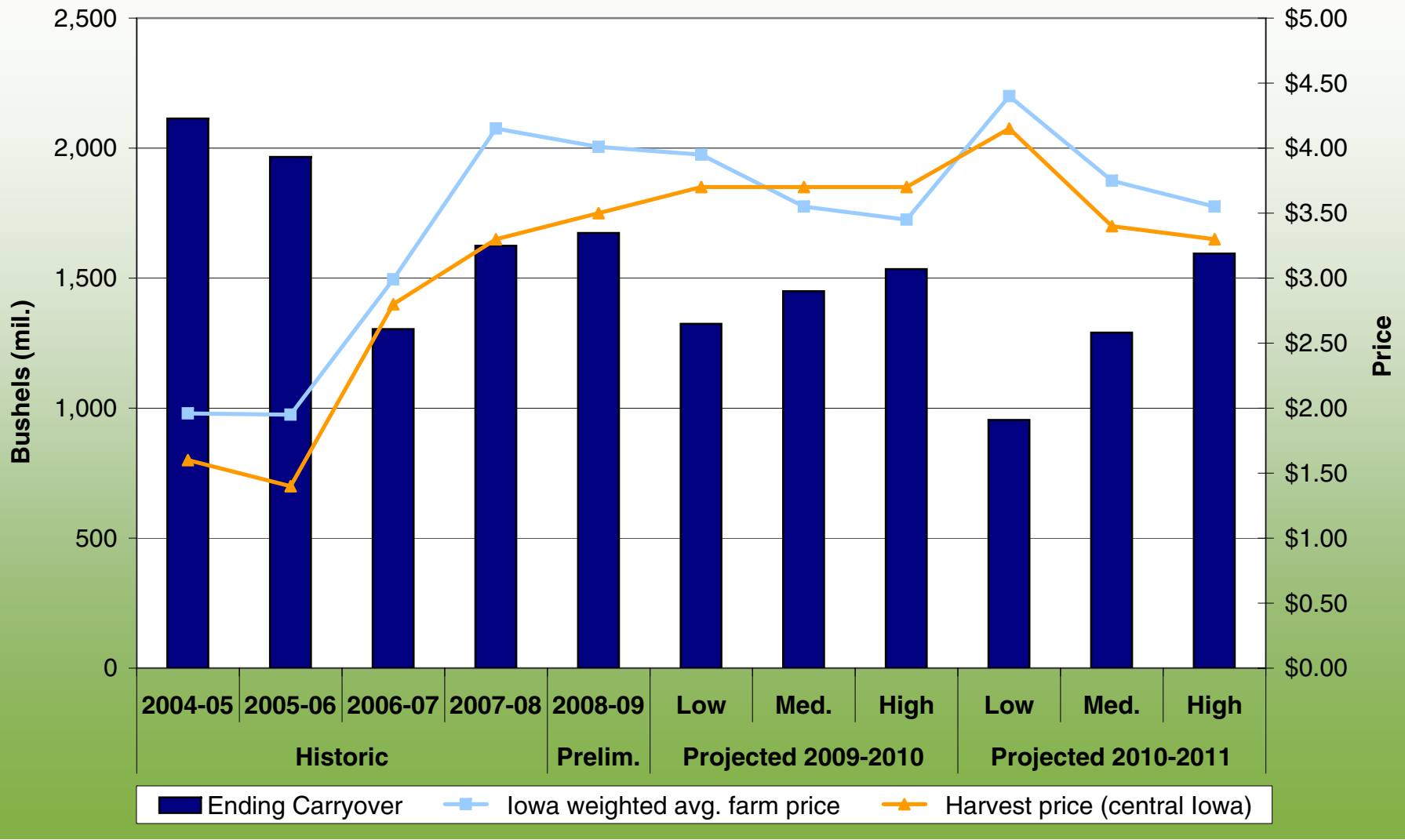
Yield, Bushels per Acre Used for Ethanol and Returned as Dried Distillers Grains



Ending Carryover and the U.S. Weighted Average Farm Price



Ending Carryover, Weighted Average Iowa Farm Price, and Iowa Harvest Price



U.S. Corn Yield & Alternative Long-Term Trends, With USDA Nov. Forecast for 2009

