



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

Updated: 1/16/2012

	Historic			Prelim. 2010-11	Proj. 2011-12	Projected 2012-2013		
	2007-08	2008-09	2009-10			Low	Med. <sup>4</sup>	High
<b>Year: (production/marketing)<sup>1/</sup></b>								
Yield (bu. per acre)	150.7	153.9	164.7	152.8	147.2	148.0	164.2	168.0
<b>Long-term Historical Yield Probability:</b>					<b>30%</b>	<b>18%</b>	<b>65%</b>	<b>17%</b>
						Medium yld=1990-2007 trend		
<b>Supplies:</b>								
Planted acres (million)	93.5	86.0	86.4	88.2	91.9	94.5	94.5	94.5
Harvested acres (million)	86.5	78.6	79.5	81.4	84.0	87.3	87.7	87.8
Production (mil. bu.)	13,038	12,092	13,092	12,447	12,358	12,920	14,400	14,750
Beginning carryover (mil. bu.)	<u>1,304</u>	<u>1,624</u>	<u>1,673</u>	<u>1,708</u>	<u>1,128</u>	<u>766</u>	<u>766</u>	<u>766</u>
<b>Total Supply (incl. imports)</b>	<b>14,362</b>	<b>13,729</b>	<b>14,774</b>	<b>14,182</b>	<b>13,501</b>	<b>13,706</b>	<b>15,178</b>	<b>15,527</b>
<b>Total Usage: (mil. bu.)</b>								
Feed & residual	5,913	5,182	5,140	4,792	4,650	4,650	4,750	4,800
Ethanol & DGS	3,049	3,709	4,568	5,021	5,000	5,050	5,150	5,175
Food, ind. & seed	1,338	1,316	1,371	1,407	1,410	1,410	1,415	1,420
Exports	<u>2,437</u>	<u>1,849</u>	<u>1,987</u>	<u>1,835</u>	<u>1,675</u>	<u>1,775</u>	<u>1,800</u>	<u>1,850</u>
<b>Total Usage</b>	<b>12,737</b>	<b>12,056</b>	<b>13,066</b>	<b>13,054</b>	<b>12,735</b>	<b>12,885</b>	<b>13,115</b>	<b>13,245</b>
<b>Ethanol Usage:<sup>2/</sup></b>								
Ethanol & DGS usage (bu. corn)	3,049	3,709	4,568	5,021	5,000	5,050	5,000	5,175
DDGS production (mil. bu. corn equiv.) <sup>3/</sup>	682	842	1,051	1,162	1,163	1,183	1,208	1,214
Ethanol & DGS usage (bu. per acre)	35	47	57	62	60	58	59	59
DDGS production (bu. per acre equiv.)	8	11	13	14	14	14	14	14
Ethanol & DGS usage (% corn production)	23.4%	30.7%	34.9%	40.3%	40.5%	39.1%	35.8%	35.1%
DDGS production (corn equiv.% of crop)	5.2%	7.0%	8.0%	9.3%	9.4%	9.2%	8.4%	8.2%
Mil. bu. increase in ethanol-DGS vs. prev. year	932	660	859	452	-21	50	0	175
<b>Ending Carryover: (mil. bu.)</b>	<b>1,624</b>	<b>1,673</b>	<b>1,708</b>	<b>1,128</b>	<b>766</b>	<b>821</b>	<b>2,063</b>	<b>2,282</b>
<b>Carryover as percent of supply</b>	<b>11.3%</b>	<b>12.2%</b>	<b>11.6%</b>	<b>8.0%</b>	<b>5.7%</b>	<b>6.0%</b>	<b>13.6%</b>	<b>14.7%</b>
Carryover, weeks of total use	6.6	7.2	6.8	4.5	3.1	3.3	8.2	9.0
<b>Prices:</b>								
U.S. weighted avg. farm price	\$4.20	\$4.06	\$3.55	\$5.18	\$6.05	\$6.45	\$5.00	\$4.85
Iowa weighted avg. farm price	\$4.15	\$4.01	\$3.50	\$5.13	\$6.00	\$6.40	\$4.95	\$4.80
Harvest price (central Iowa)	\$3.30	\$3.50	\$3.60	\$4.75	\$5.85	\$6.15	\$4.65	\$4.50
Dec. futures price (harvest avg.)	\$3.80	\$3.85	\$3.95	\$5.35	\$6.20	\$6.60	\$5.15	\$5.00
<b>Other:</b>								
Feed use % chg. low-yield years vs. 2007-08					-21.4%	<b>-21.4%</b>		
Mil. bu. domestic corn feeding replaced by increased DDGS <sup>3/</sup>	172	115	148	70	-9	11	29	34
Mil. bu. corn exports replaced by increased DDGS	44	44	60	41	11	9	15	17
Mil. bu. change in corn feeding vs. prev. year	315	-731	-42	-348	-142	0	100	150
% change in corn feeding vs. prev. year:	5.6%	-12.4%	-0.8%	-6.8%	-3.0%	0.0%	2.2%	3.2%
<b>Net change in domestic corn feeding (mil. bu.) vs. prev. yr., incl. DDGS</b>	<b>487</b>	<b>-616</b>	<b>106</b>	<b>-278</b>	<b>-151</b>	<b>11</b>	<b>129</b>	<b>184</b>

By Dr. Robert Wisner, biofuels economist, 1-515-294-4275, rwwisner@iastate.edu

### Notes:

<sup>1/</sup> 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.

<sup>2/</sup> DDGS bu. equivalent production & 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 76% 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 24% of current 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.

<sup>3/</sup> Includes corn equivalent of DDGS exports.

<sup>4/</sup> Long-term probabilities reflect historical frequencies. Yield since 1990 has been above 1990-2007 trend 8 years, equal to it one year and below it 13 out of 22 years. Since 1995, yield has been above this trend 5 out of 17 years. Excluding 2004, the average difference of actual yield since 1995 vs. 1990-2001 trend has been -1.7 bushels/a. The 1995-2007 trend reflects two low years and one very high year that tilt the trend line upward (See alternative yield trend chart). Actual yield has been below the 1995-07 trend yield 6 of last 7 years (2009 was the exception), by an average of -6.6 bu./a. Yield was below 2005-09 trend 5 of last 7 years.

### Key Balance Sheet Assumptions:

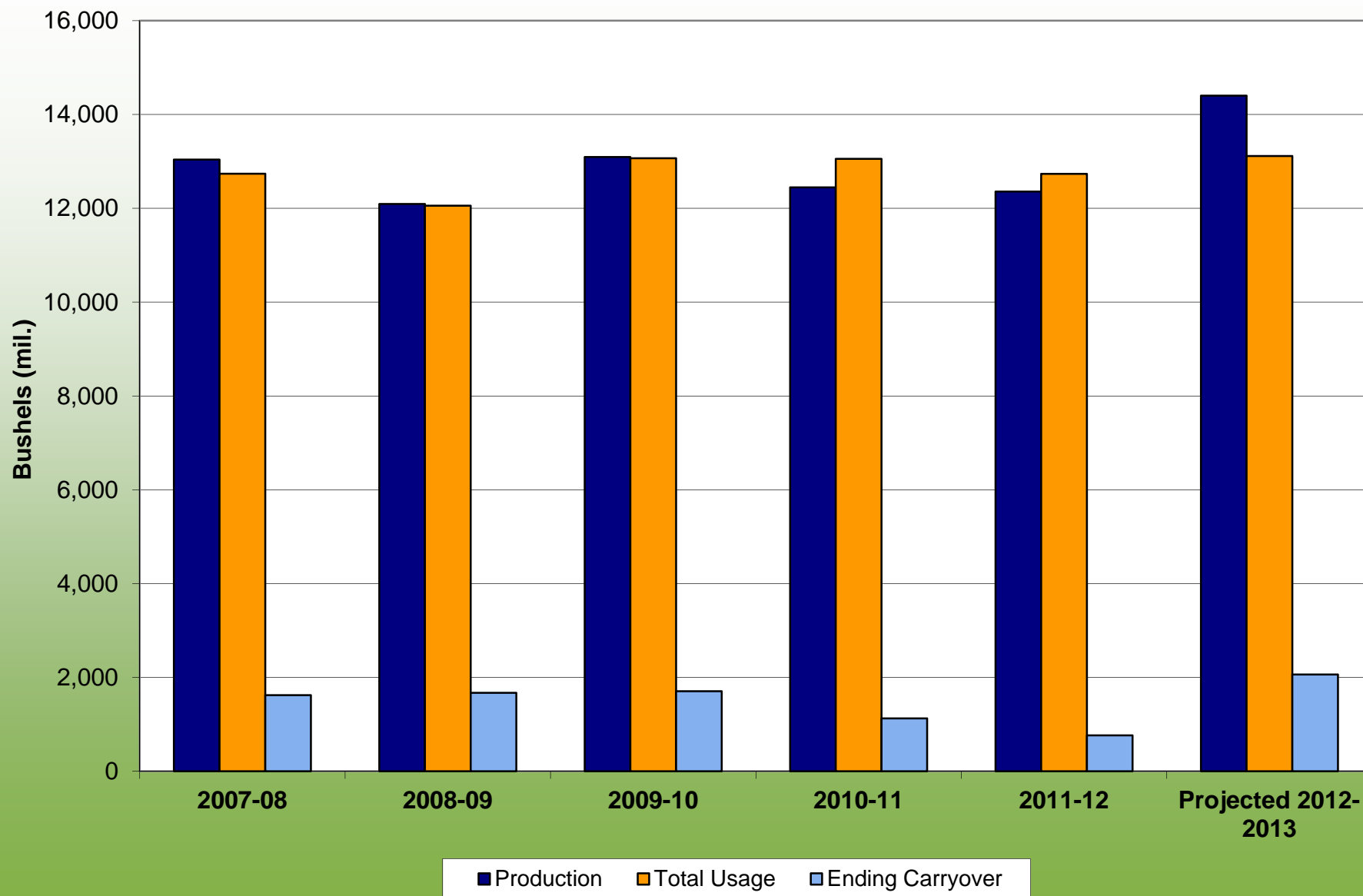
1. No changes in Conservation Reserve Program.
2. Crude oil (petroleum) price gradually increases from the \$95-\$105/barrel range in the next two years.
3. U.S. Ethanol & biodiesel mandates are maintained and enforced.
4. U.S. & World economies accelerate slightly in 2012 and 2013.
5. U.S. dollar gradually decreases relative to foreign currencies through 2012.

... and justice for all

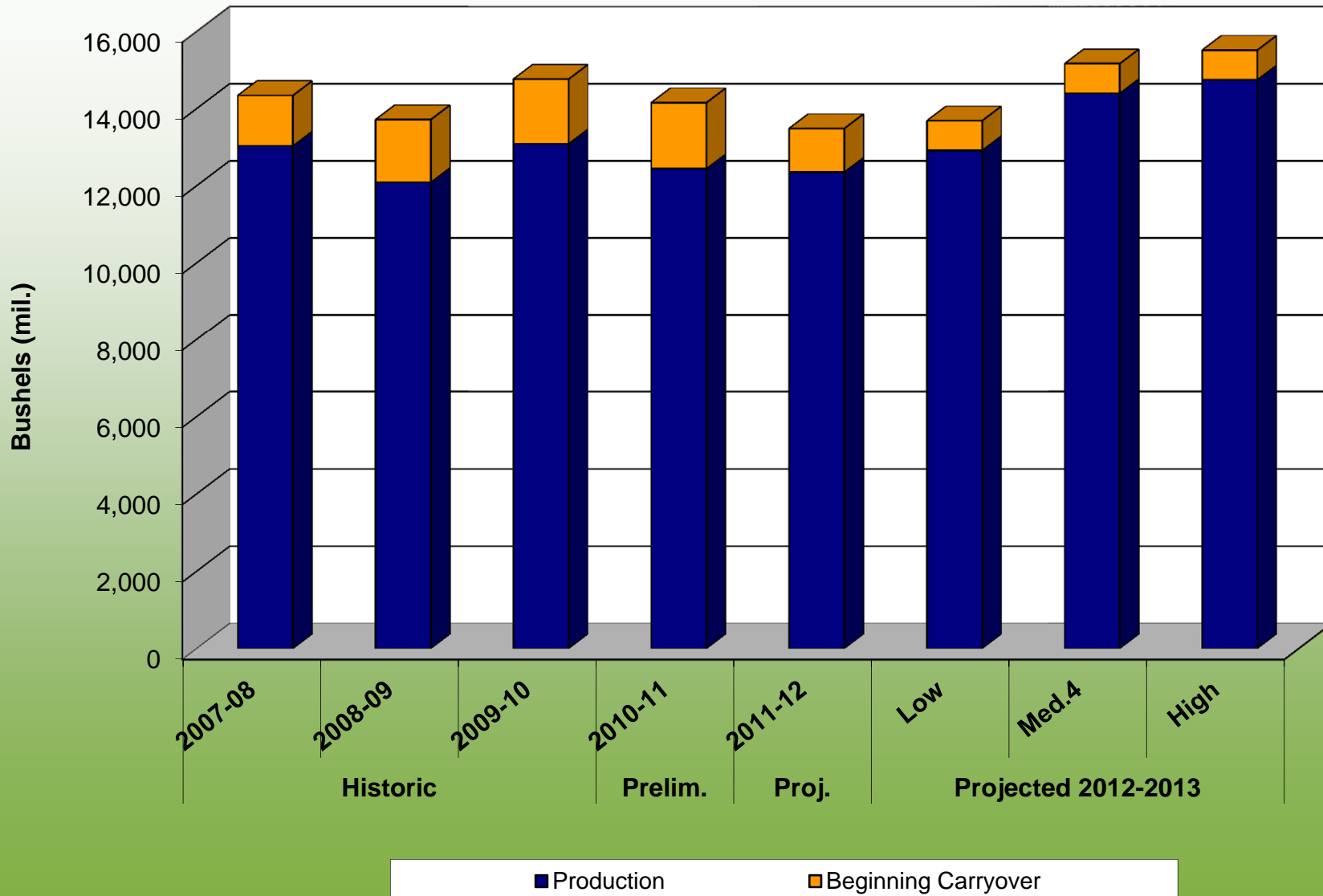
The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and July 30, 1914, in cooperation with the U.S. Department of Agriculture. Cathann A. Kress, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.

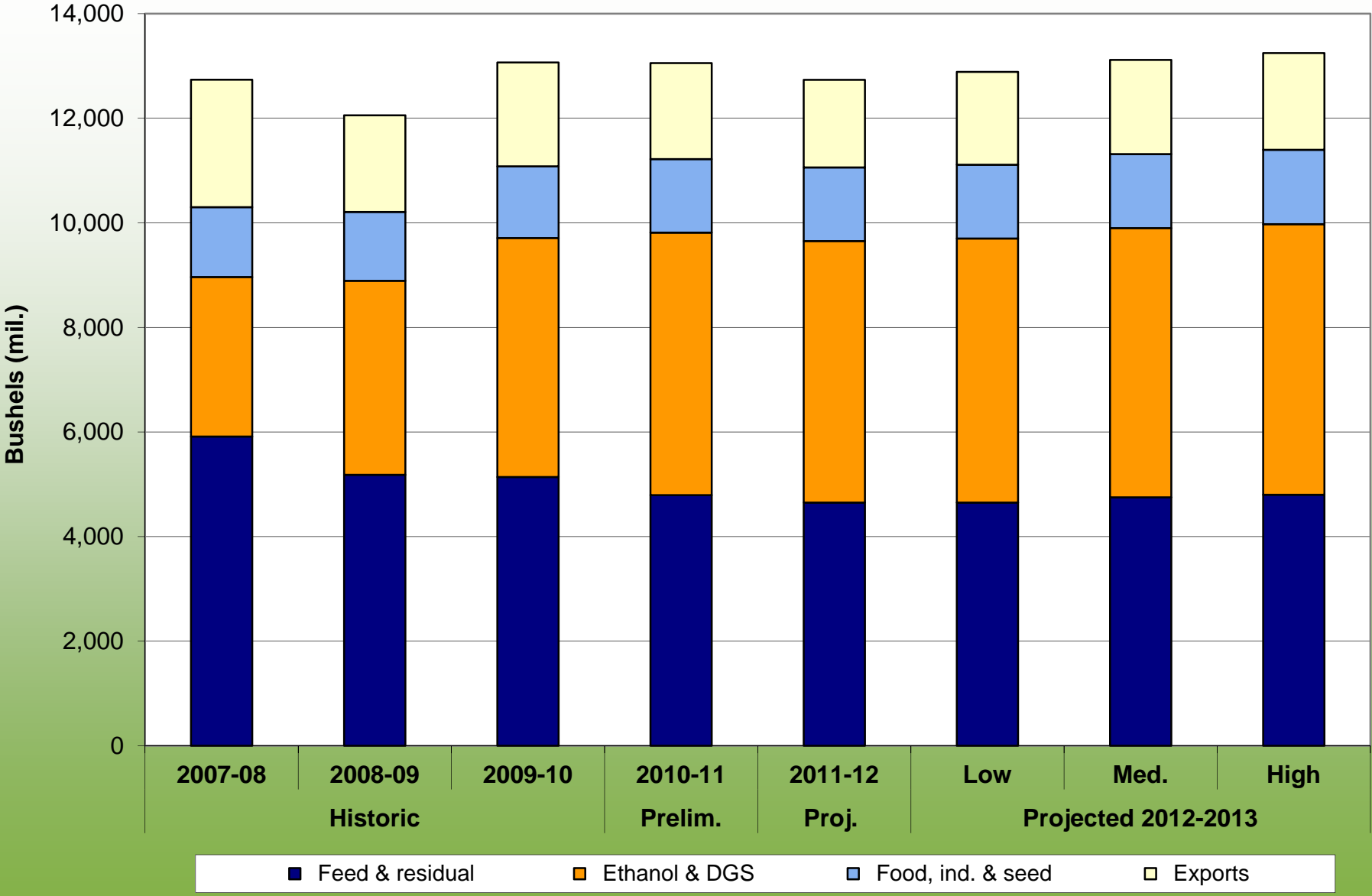
## Corn Production, Usage and Ending Carryover



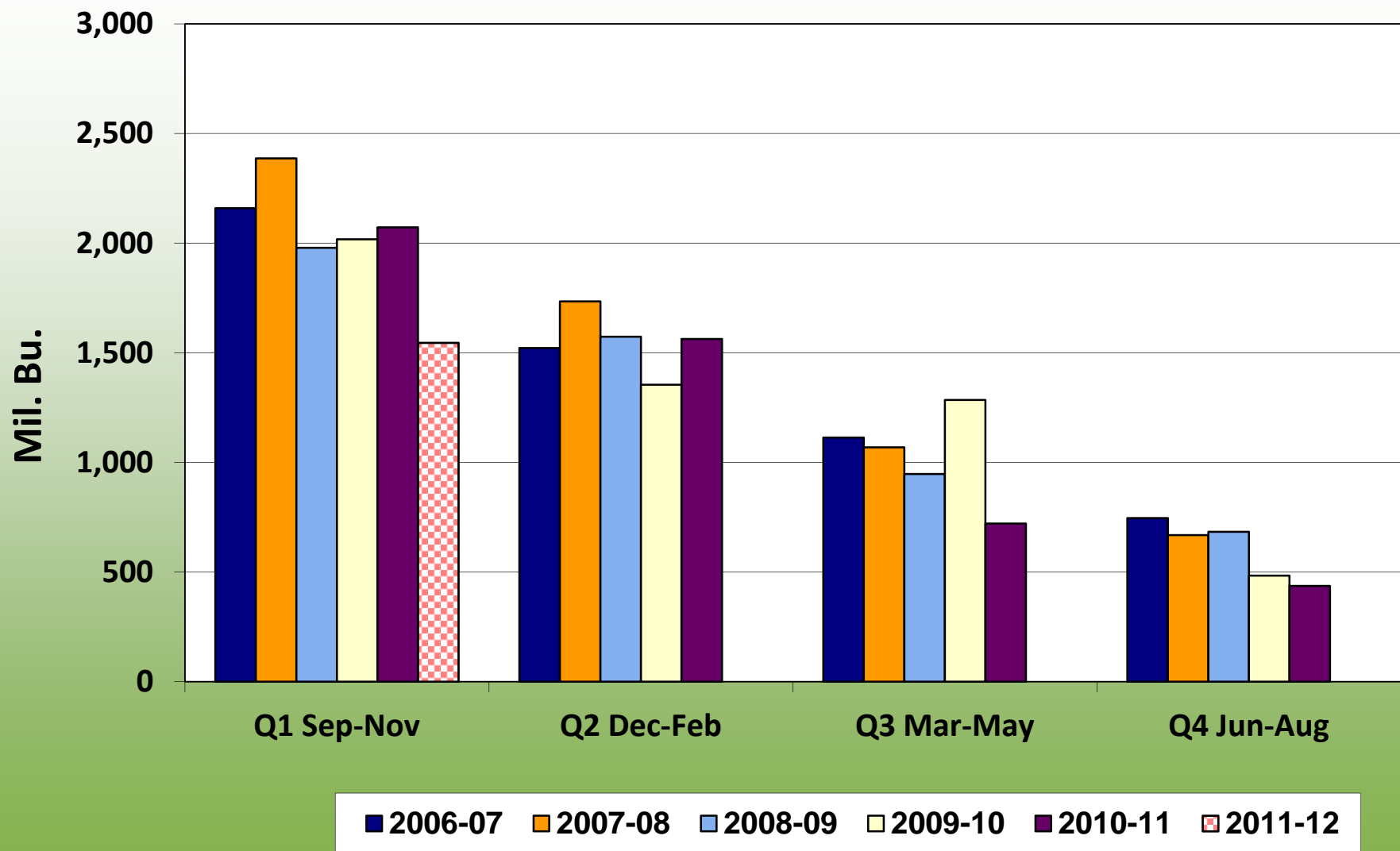
## Total Corn Supply (beginning carryover and production)



# Corn Usage (feed, ethanol, exports and other)

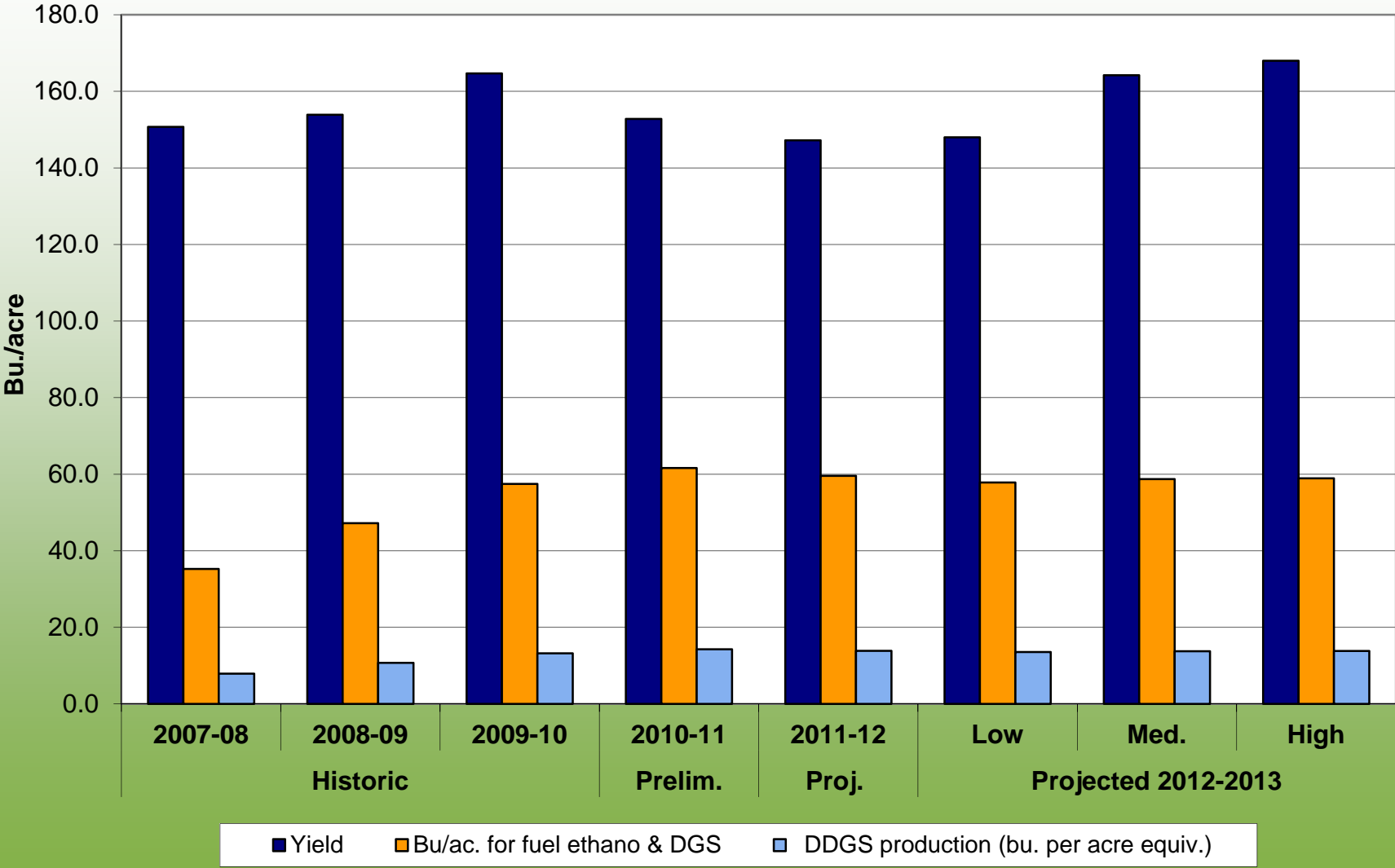


## Quarterly Corn Feed & Residual Use

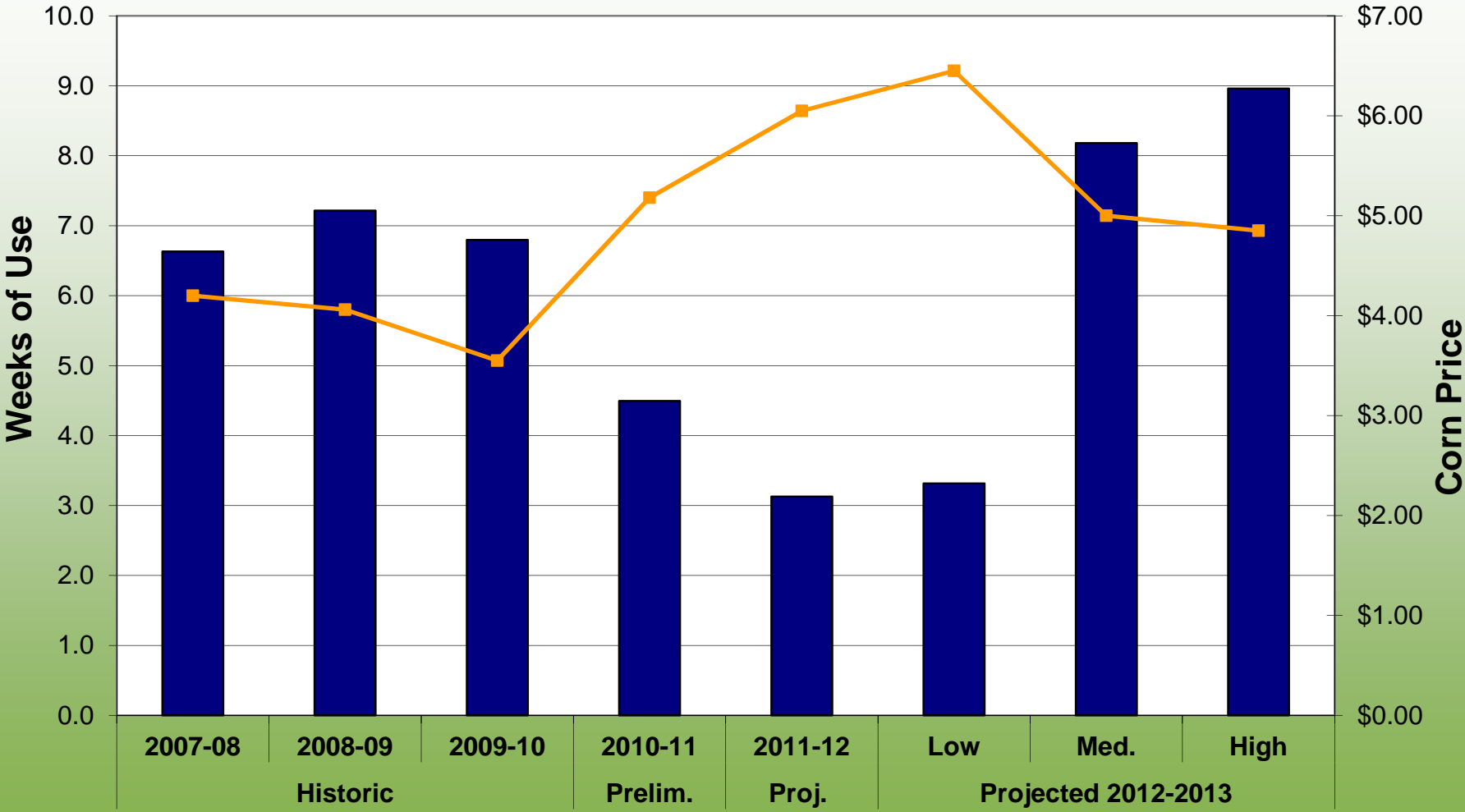


a/ Based on USDA quarterly use through 11/3/2011 mktg. year with 12/1/11 stocks

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

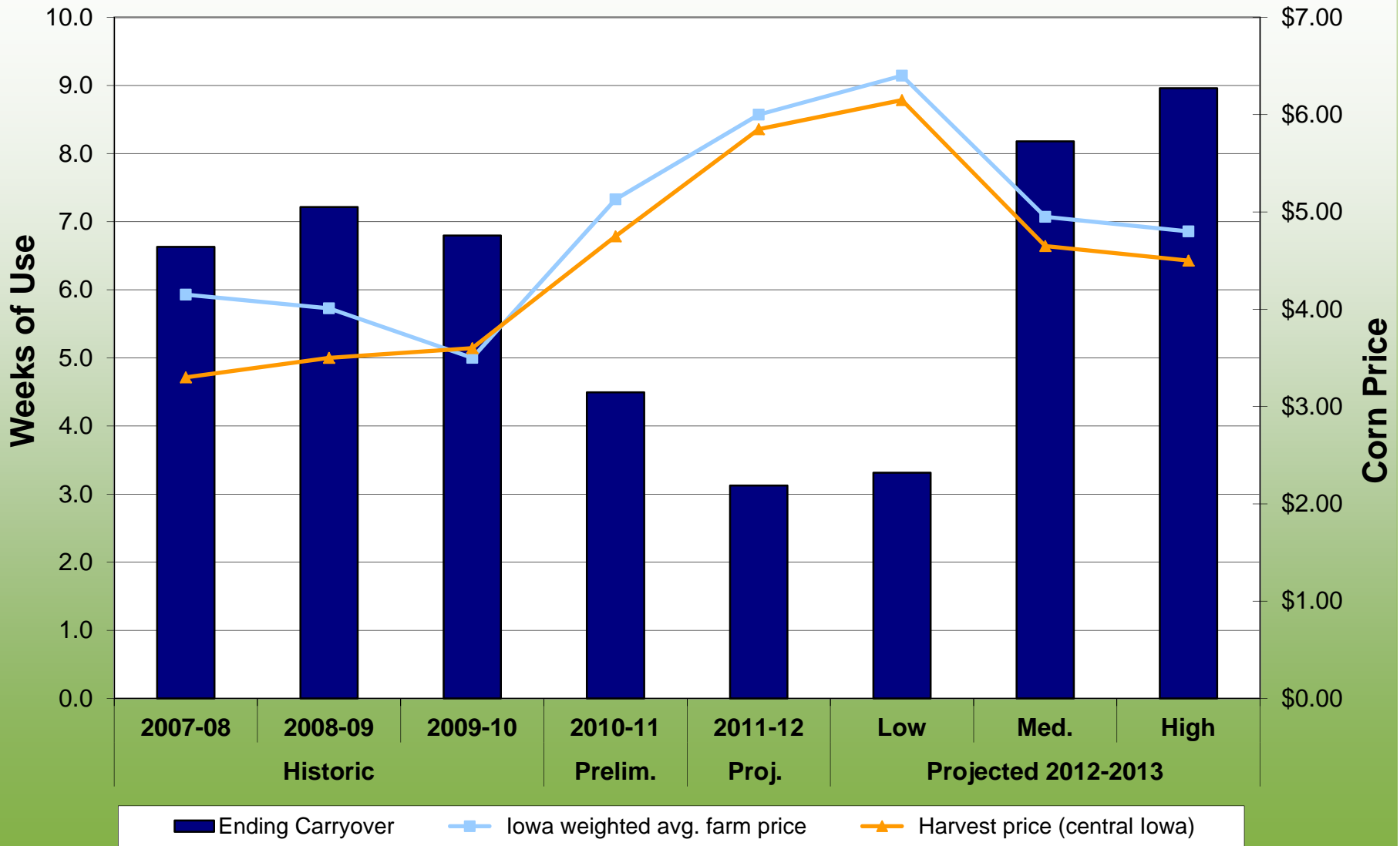


# Ending Corn Carryover and the U.S. Weighted Average Farm Price



■ Ending Corn Carryover    
 —■— U.S. weighted avg. farm price

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



## U.S. Corn Yield & Alternative Long-Term Trends, With USDA November Forecast for 2011

