

ETHANOL AND THE 2010 CORN CROP

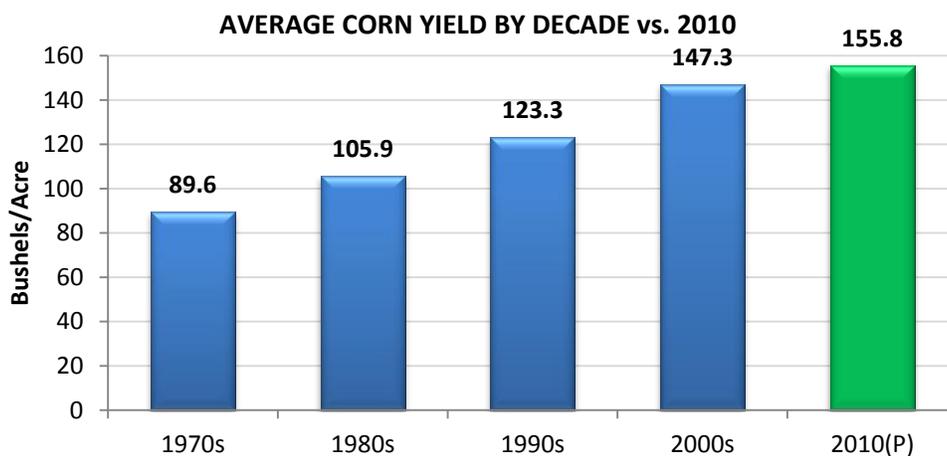
Unfavorable weather conditions late in the growing season prompted the U.S. Department of Agriculture (USDA) on October 8 to reduce its estimate of the 2010 corn crop from 13.2 billion bushels to 12.7 billion bushels. Along with its projection of a smaller-than-expected crop, USDA is forecasting higher average corn prices for the 2010/11 marketing year and a lower surplus.

December corn futures prices reacted immediately to the October 8 USDA projections, rising from \$4.98 per bushel on October 7 to \$5.79 per bushel by the end of the October 12 trading session. As recently as late June, December corn futures were trading under \$3.50 per bushel.

As they did during the speculation-fueled commodities bubble of 2008, critics of the corn and ethanol industries are using the recent surge in corn prices to once again question the American farmer's ability to satisfy demand for both renewable fuels and traditional markets like livestock feed and exports. While this year's potentially smaller corn supply will have some short-term impacts on the market, a review of the latest data and facts shows that U.S. farmers and ethanol producers will continue to serve as reliable producers of feed and fuel.

THE 2010 CORN CROP AND AVERAGE YIELD PER ACRE WILL BE AMONG THE LARGEST ON RECORD

- Unfavorable weather conditions across much of the Corn Belt resulted in USDA reducing its estimate of average yield per acre from 162.5 bushels to 155.8 bushels.
- At 155.8 bushels/acre, the 2010 average yield would be the **third-highest on record**. Only the 2009 record of 164.7 bushels/acre and the 2004 yield of 160.4 bushels/acre would be higher.
- At 12.7 billion bushels, the 2010 corn crop would also be the **third-largest on record**, trailing only the 2009 record of 13.1 billion bushels and the 2007 crop of 13.0 billion bushels.
- The 2010 projected yield would be well above the most recent 10-year average, and would far exceed the average yields of the 1990s and previous decades.



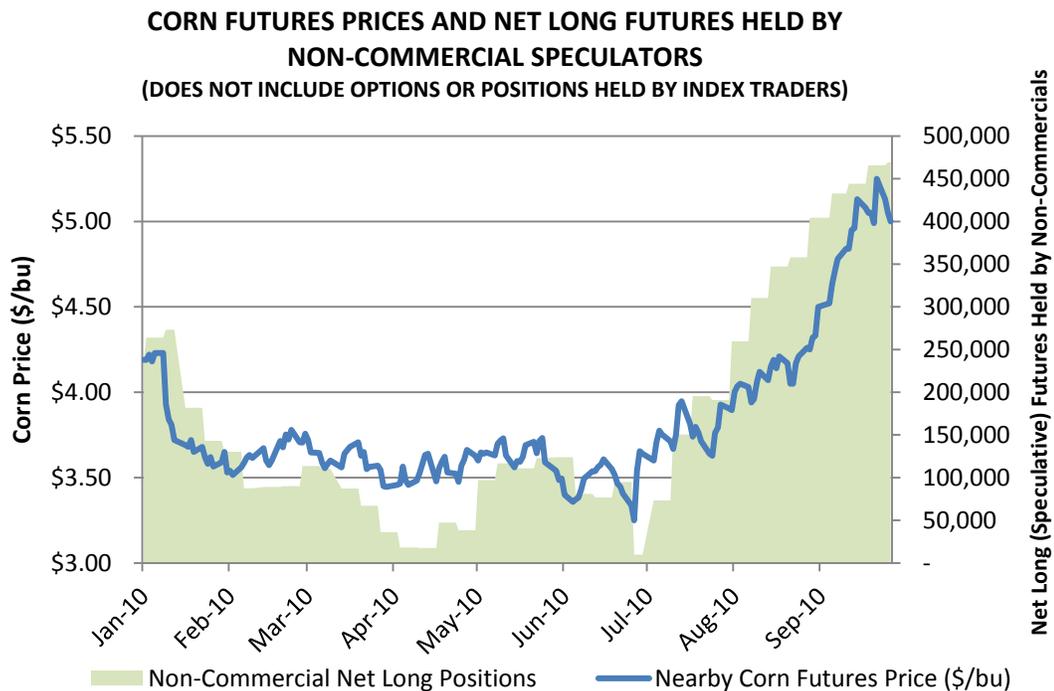
Source: USDA

- Given the extremely hot, dry weather experienced in some parts of the Corn Belt and the excessive moisture in others, the projected average yield and crop would be a remarkable achievement and a testament to today's superior seed technologies.

- It is also important to remember that the 2010 harvest is only 51% complete, according to USDA’s October 12 crop progress report. The areas hit hardest by unfavorable weather conditions this summer were among the first to harvest this fall. Harvest has only recently begun in areas where some of the best yields are expected. The October 12 crop progress report also showed a slight rebound in the condition of the crop, with 68% reported as being in good or excellent condition compared to 66% the week before. Until harvest is complete and the crop is “in the bins,” average yield projections must be interpreted with caution.

THE RECENT ESCALATION IN GRAIN PRICES HAS SEVERAL CAUSES

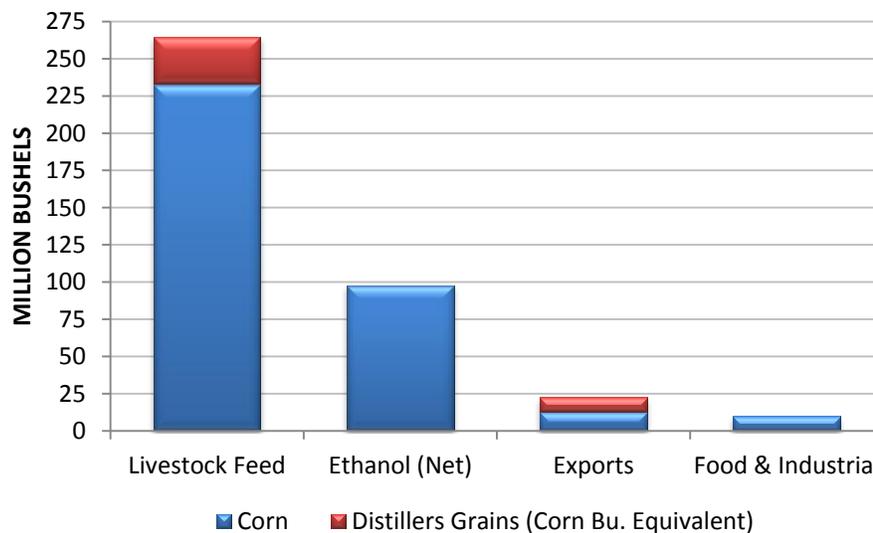
- As recently as June, corn futures prices were under \$3.50 per bushel and cash prices in some local markets were closer to \$3 per bushel. However, news came in July that the wheat crop in Russia and the Ukraine would be substantially reduced due to drought. In August, Russia placed an embargo on wheat exports, leaving its import customers in search of other sources for feed and food grains.
- The wheat situation in the Former Soviet Union touched off a speculative flurry in U.S. grain markets, as non-commercial investors laid down their bets that the reduction in Russian wheat output would boost export demand for U.S. grains.
- By early September, there was more speculative investment in the corn futures market than ever before—even more than at the height of the 2008 bubble. As of September 28, non-commercial investors (such as hedge funds) held 373,000 net long corn futures and options. “Index traders” held another 487,000 net long futures and options. This means, together, these investors controlled **more than 4.3 billion bushels of corn**—nearly equivalent to the amount of corn the ethanol industry will use in 2010. Speculators and index investors have no intent whatsoever of using the grain they control and are interested only in pushing prices higher.



Source: CFTC and CBOT

- In early October, Agriculture Secretary Tom Vilsack “...said he is ‘concerned’ that the flow of money from Wall Street hedge funds into the commodity markets contributes to price volatility.”¹ Lawmakers, analysts, commercial buyers and users of grain, and others have similarly concluded that unlimited speculation contributes to instability in the markets.
- Beyond the influence of speculative investment, underlying demand fundamentals are also playing a role in the current pricing situation. USDA is projecting total corn demand to be 3% above last year’s levels and 12% above 2008/09 demand. Notably, demand for each major corn end use segment is up. Corn demand for livestock feed is increased considerably from a year ago, while demand for ethanol, food and industrial processing, and exports is also up.

**2009/10 to 2010/11 YEAR-ON-YEAR CHANGES IN CORN USE,
BY DEMAND SEGMENT**



Source: USDA

- The Russian wheat failure, the subsequent influx of speculative investment into U.S. grain markets, strong underlying demand (particularly from the livestock sector), and the potential for a smaller-than-expected corn crop *all* are playing a role in the current market dynamic.

FARMERS RESPOND QUICKLY TO PRICE SIGNALS FROM THE MARKETPLACE

- Farmers base their planting decisions on price signals from the marketplace. Higher world prices for corn resulting in part from potentially lower production in the United States likely will lead farmers in other parts of the world to plant more corn instead of other less profitable crops.
- For instance, corn planting is underway in many Southern Hemisphere countries and farmers are planting more acres to corn and less to other crops. According to a recent Bloomberg report, corn farmers in Argentina (typically one of the world’s top corn exporters) are “planting at a

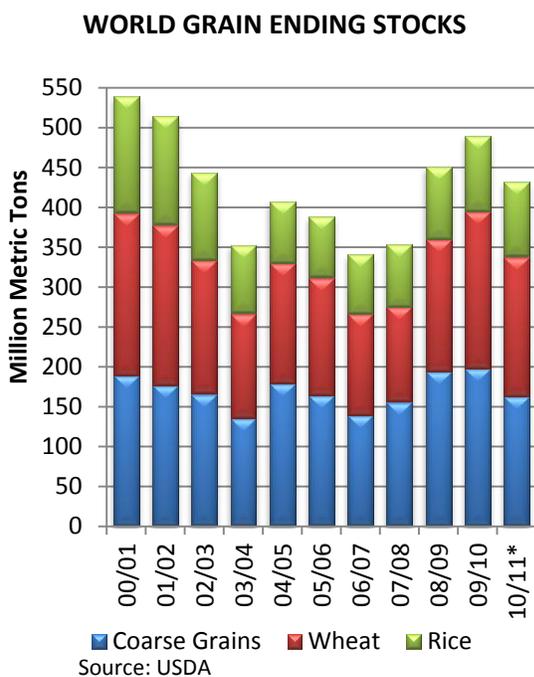
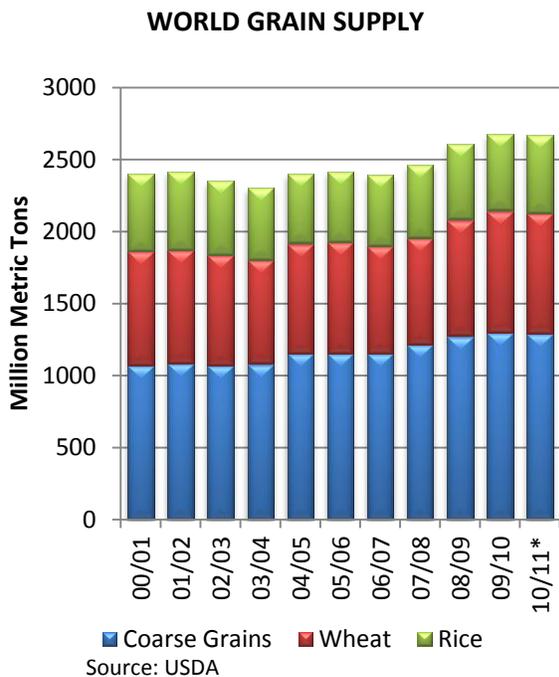
¹ <http://www.desmoinesregister.com/article/20101013/BUSINESS/10130350/-1/LIFE04/Vilsack-is-confident-in-USDA-corn-reports>

faster rate than a year earlier” and “the corn crop is forecast to climb to 26 million tons, the largest ever.”²

- Here in the United States, farmers have a history of responding quickly to market signals by adjusting acreage and switching crops to best capitalize on current and expected prices. As an example, a short corn crop in 1995 caused prices to spike and left ending stocks at just 426 million bushels. Farmers responded the next year by **increasing corn acres by 11%** and **boosting total production by 25%**.
- More recently, farmers increased corn acreage by some 15 million acres in 2007 in response to demand and price signals. The 19% increase in corn acreage in 2007 clearly demonstrates the ability of farmers to react swiftly to changes in the marketplace.
- When corn ending stocks dropped to 958 million bushels in 2003/04, farmers responded by harvesting a then-record crop in 2004 and building 2004/05 ending stocks to 2.1 billion bushels.

THE CURRENT WORLD GRAIN SITUATION IS DIFFERENT THAN THE GRAIN PRICE SPIKE OF 2007/08

- Critics of the agriculture and biofuels industries are attempting to draw parallels between the current grain market situation and the events of the 2007/08 marketing year. Yet, global grain stocks are substantially higher today than in 2007/08, and the potential reduction in U.S. corn production is likely to be offset by larger-than-expected grain production in other countries.



- In fact, USDA’s October 8 projection of the global coarse grains supply is **slightly higher** than its September estimate, despite the large reduction in the estimated size of the U.S. corn crop.

² <http://www.bloomberg.com/news/2010-10-08/rainfall-propels-argentina-past-pakistan-in-bond-market-argentina-credit.html>

- The 2010/11 global grain supply is projected to be nearly identical in size to last year's supply, which was the **largest in more than 10 years**. While ending stocks are projected to be lower than last year, 2010/11 carry-out would be the third-highest in the last eight years.
- It is also worth noting that the U.S. ethanol industry remains a relatively small user of grain in the context of global supplies. In 2010/11, U.S. ethanol producers are projected to use **less than 3%** of the world grain supply on a net basis. Because the ethanol industry consumes such a small fraction of the world's grain, it is disingenuous to suggest that the U.S. biofuels sector is somehow driving global grain markets.

ETHANOL FEED CO-PRODUCTS MAKE AN IMPORTANT CONTRIBUTION TO THE GLOBAL FEED SUPPLY

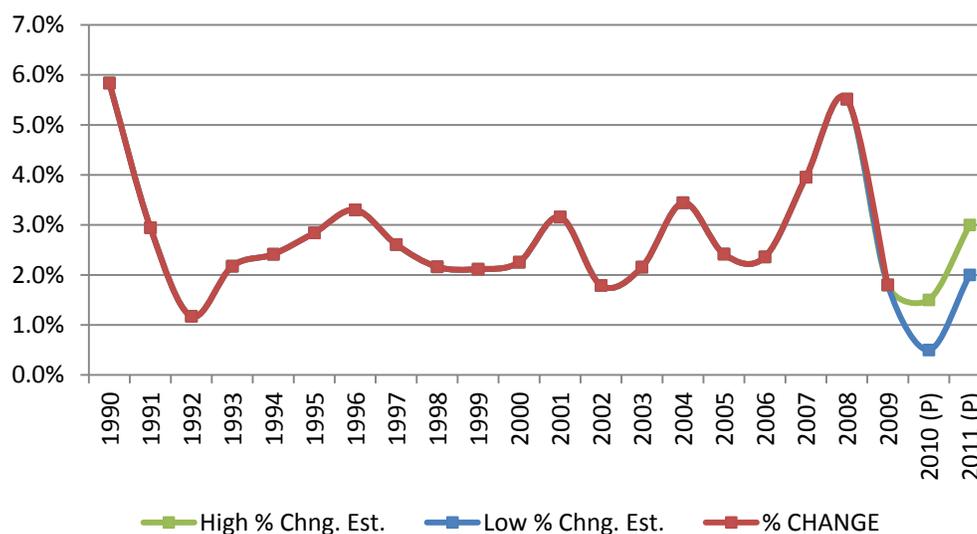
- Discussions of ethanol's impact on world grain markets often neglect the important contribution of distillers grains, corn gluten feed and corn gluten meal, the primary animal feed co-products resulting from the grain ethanol process.
- The ethanol process utilizes only the starch portion of the corn kernel. The corn kernel's protein, fat and other nutrients remain available to the feed market in the form of distillers grains, corn gluten feed, and corn gluten meal.
- Every 56-pound bushel of corn entering the ethanol process produces about 2.8 gallons of ethanol and 17 pounds of livestock and poultry feed. Thus, of the 4.7 billion bushels projected to be used for ethanol in 2010/11, approximately 1.4 billion bushels are more accurately characterized as being used for animal feed production. This means a net total of 3.3 billion bushels are being used strictly for ethanol production.
- In addition to feeding U.S. beef and dairy cattle, swine, and poultry, ethanol feed co-products are increasingly satisfying foreign demand for protein and energy feeds. Of the 36 million metric tons of ethanol feed co-products generated in 2010/11, it is estimated that approximately 9 million metric tons will be exported. That's the equivalent of **350 million bushels** of corn.

RETAIL FOOD PRICES REMAIN AT MODERATE LEVELS

- Because world grain stocks are robust, and because energy prices are moderate relative to 2007/08 levels, the **outlook for food prices is stable**.
- According to USDA, the Consumer Price Index (CPI) for all food is projected to increase 0.5 to 1.5% in 2010—**the lowest annual food inflation rate since 1992**. And despite rapid growth in ethanol production in 2009, the all-food CPI increased just 1.8 percent for the year. Food-at-home (i.e., grocery) prices increased by 0.5 percent in 2009—the lowest increase since 1967.
- Despite the recent increase in grain prices, USDA is projecting lower-than-normal food inflation for the remainder of 2010. According to the agency, "Although global economies have recovered somewhat from the 2008-09 recession, world economic activity remains below pre-recession levels, resulting in overall food price inflation in 2010 remaining **below historical averages**." USDA's forecast for 2011 food inflation is 2 to 3%, compared to the more normal rate of 3 to 4%.³

³ <http://www.ers.usda.gov/briefing/cpi/foodandexpenditures/consumerpriceindex.htm>

CPI-FOOD, PERCENT CHANGE, YEAR-ON-YEAR



- Meat prices are higher today than in recent years, but those higher prices have nothing to do with the recent escalation in grain prices. Rather, today's meat prices are reflective of decisions made by livestock producers 18 to 24 months ago in response to the record high energy prices and the speculation-induced commodities bubble of 2007/08.

CONCLUSION: WHAT DID WE LEARN FROM THE 2007/08 FOOD PRICE EPISODE?

The "food vs. fuel" debate is certainly nothing new. It seems that whenever grain prices start to rise, biofuel critics and beneficiaries of cheap grain circle back to the same arguments that have been repeatedly disproven. Several recent analyses of the 2007/08 commodities bubble have vindicated ethanol by concluding that biofuels played an inconsequential role in the food price run-up.

A March 2010 report by the United Kingdom's Department for Environment, Food and Rural Affairs found "Available evidence suggests that biofuels had a relatively small contribution to the 2008 spike in agricultural commodity prices."⁴ Even the World Bank, which in 2008 hastily suggested biofuels was playing a large role in higher food prices, released an analysis in July 2010 that found "...the effect of biofuels on food prices has not been as large as originally thought..." and that "...the use of commodities by financial investors may have been partly responsible for the 2007-08 spike."⁵

Hopefully, the lessons learned from the rush to judgment about the causes of the 2007/08 food price escalation will lead media and policymakers to take a more careful and measured approach to discussions of the current grain market situation and the role of biofuels.

⁴ <http://www.defra.gov.uk/foodfarm/food/pdf/ag-price-annex%205.pdf>

⁵ http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2010/07/21/000158349_20100721110120/Rendered/PDF/WPS5371.pdf