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Mr. Chairman, Ranking Member Upton and Members of the Committee, on behalf of the National Corn Growers Association (NCGA), I appreciate this opportunity to discuss the implementation of the newly enacted Renewable Fuels Standard and the opportunities it has brought to rural economies and farmers across the nation and to dispel certain assumptions about the role of corn in biofuel production.

My name is Rick Tolman; I am the CEO of the National Corn Growers Association. The National Corn Growers Association represents more than 32,000 corn farmers from 48 states as well as more than 300,000 farmers who contribute to corn check off programs and 26 affiliated state corn organizations across the country. NCGA continues to be committed to creating new opportunities and markets for corn in the US and around the globe.

The National Corn Growers Association thanks the Committee for their support and inclusion of the Renewable Fuels Standard in the Energy Independence and Security Act of 2007 (EISA). This policy has been critical to the growth and economic development of rural America and has added value to our product, which for so long has been priced below the cost of production. EISA was sound energy policy that encouraged a diversification of renewable resources and further reduced our reliance on foreign oil.

Recently, many critics have been quick to point to biofuels as the primary reason for global food price increases as well as questioning biofuels ability to reduce greenhouse gas emissions and be produced in a sustainable manner on a world stage. Evidence strongly shows that ethanol is not the primary factor in modest food price increases, saves the American consumer at the pump, reduces greenhouse gas emissions and is being produced more efficiently, more economically and more sustainably everyday.

Agriculture has been the backbone of the American economy since the birth of the nation. US producers have consistently answered the call to provide feed, food and now fuel to the global marketplace. We have seen dramatic increases in corn yields on existing farmland due to advances in technologies, more environmentally efficient practices being utilized by farmers, and increases in demand across the globe continue to be met.

RURAL DEVELOPMENT

Renewable fuels policy has been instrumental in the rejuvenation of rural economies throughout the world. Biofuels has created investment and spurred economic development in many small towns that have suffered from depressed grain prices and flat demand. According to a study by consulting firm LECG, LLC, small and rural communities with ethanol facilities nearby see a much more dramatic economic boost. In 2007, an average 100 million gallon per year ethanol biorefinery added $367 million to the local GDP, created more than 2,400 new jobs across all sectors of the economy including 50 at the biorefinery itself and more than 1,300 in the agricultural sector, and has boosted local household incomes by more than $100 million.[1]

Additionally, higher global grain prices and development of world biofuels trade are allowing small farmers in many parts of the world to earn a profit on their crops for the first time in years. For example, a $115 million ethanol project in Nigeria is expected to empower 5,000 local peasant farmers, bring new investment and jobs to the area, and stimulate agricultural production. The project's coordinator, Mr. Tunji Awoniyi, says ethanol and crop production is "a huge weapon to fight deprivation, either financially or otherwise" in Nigeria, which currently imports ethanol from Brazil to satisfy its biofuels requirements[2].

The strong renewable fuels policies in the United States have not only created local, rural economic growth, but have increasingly promoted development and prosperity among third world farmers. The Renewable Fuels Standard and other biofuel programs have created opportunities for rural communities and subsistence farmers across the globe.

FOOD PRICES

Recently, the media and ethanol critics have demonized corn ethanol and attempted to solely blame higher commodity costs and government policies promoting renewable fuel on rising food costs.

In attempting to justify their opposition to the RFS and ethanol expansion, opponents continue to make the claim that higher corn prices are causing higher retail food prices. A look at the facts surrounding food prices simply doesn't support that logic.

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[1] "Contribution of the Ethanol Industry to the Economy of the United States," LEGC, LLC, February 2008.
[2] "Ethanol Project for Rural Empowerment," Lagos (allAfrica.com), March 18, 2008.

More so, the effects of $120 barrel oil have far reaching effects on the consumer price for food. A recent study by the Oregon Department of Agriculture details the factors affecting food price: a growing middle class in Latin America and Asia, drought in Australia, low worldwide wheat stocks, increases in labor costs, a declining U.S. dollar, regional pests, diseases, droughts and frosts, and marginal impacts from ethanol demand for corn and sugarcane.[3]

Again, numerous cost factors contribute to retail food prices. According to USDA, labor costs account for 38 cents of every dollar a consumer spends on food. Packaging, transportation, energy, advertising, profits and other costs account for 43 cents of the consumer food dollar. Petroleum is used in virtually every step of the food supply chain that begins at the farm and ends at the consumer's table. One recent study found that a $1 per gallon increase in the price of gas has three times the impact on food prices as does a $1 per bushel increase in the price of corn.[4] Certainly the recent increase in diesel prices may have a more pronounced effect.

In fact, just 19 cents of every consumer dollar can be attributed to the actual cost of farm products like grains, oilseeds and meat. Retail food products such as cereals, snack foods, and beverages sweetened with corn sweeteners contain very little corn. Consider that even when corn is priced at $5 per bushel, a standard box of corn flakes contains less than 8 cents worth of corn.

Corn is a more significant ingredient for meat, dairy, and egg production. Still, corn represents a relatively small share of these products from a retail price perspective. As an example, according to the National Cattlemen's Beef Association, it takes about 3

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[3] "Factors Affecting Food Prices," Brent Searle, Oregon Department of Agriculture, March 2008
[4] "The Relative Impact of Corn and Energy Prices in the Grocery Aisle," LECG, LLC, June 11, 2007.

pounds of corn to produce one pound of beef[5]. This equates to 27 cents worth of corn in a pound of beef when corn is $5 per bushel. Similarly, there's about 16 cents worth of corn in a gallon of milk when corn is $5 per bushel.

Because corn and other grains constitute such a small portion of retail food products, higher grains prices are unlikely to have any significant impact on overall food inflation, according to a number of experts. According to USDA economist Ephraim Liebtag, a 50% increase in corn prices translates to an overall increase of retail food prices of less than 1 percent. Similarly, a recent analysis by Informa Economics found that higher corn prices "explain" only 4 percent of the increase in retail food prices. This is corroborated by a fact sheet released by the White House last week that says, **"Increased production of corn-based biofuels is estimated to account for only three percent of the 43 percent increase in global food prices."**

And though we're hearing lots of news about "skyrocketing higher food prices," very few reporters have taken the time to see just how much higher food prices really are. According to the Bureau of Labor Statistics, the 25-year average annual inflation rate for food is 2.9%. That means $100 worth of groceries in 2006 should have cost $102.90 in 2007 under normal food inflation circumstances. But, as the news has widely reported, food inflation was above the 25-year average in 2007—but how high above normal? USDA estimates food inflation averaged 4% in 2007. So that means in 2007 the consumer spent $104 on groceries that would have cost $100 in 2006 instead of the $102.90 that would have occurred under normal circumstances. So the net increase was really about $1.10 for every $100 worth of groceries, or 1 penny per dollar spent.

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[5] NCBA cites a 1999 **Council for Agricultural Science and Technology** (CAST) Animal Agriculture and Global Food Supply Report that found an average of 2.6 pounds of grain is used to produce a pound of beef in developed countries

According to USDA, projected food inflation for 2008 is likely to register between 4 and 5%.

Let's compare that to gasoline. In May 2006, $100 would have bought you 37 gallons of regular unleaded gasoline. You would have had to spend $116 to buy the same 37 gallons in May 2007; and this week, 37 gallons will cost you $133.20. That's a 33% increase since 2006. And gasoline prices would be even higher without ethanol. A working paper released last week by Iowa State University says ethanol "has caused retail gasoline prices to be $0.29 to$0.40 per gallon lower than would otherwise have been the case.[6]" This conclusion is consistent with the findings of a recent Merrill Lynch analysis that determined gas prices would be 15 percent higher without ethanol.

A recent study by the Agricultural Food and Policy Center at Texas A&M University stated, "Relaxing the RFS does not result in significantly lower corn prices." The study went further to say, "the underlying force driving changes in the agriculture industry, along with the economy as a whole, is overall higher energy costs, evidenced by $100 barrel oil." [7]

More so, if policymakers are truly interested in determining the cause of higher corn prices, our suggestion would be that they start not with the ethanol industry, but with speculative investors in the commodity markets. As the stock market and other traditional investments began to stagnate in mid- to late-2007 and the credit crunch hit financial markets, index funds and "commodity pools" began to pour unprecedented amounts of

[6] The Impact of Ethanol Production on U.S. and Regional Gasoline Prices and on the Profitability of the U.S. Oil Refinery Industry," Xiaodong Du and Dermot Hayes, Center for Agriculture and Rural Development, Iowa State University, April 2008.
[7] "The Effects of Ethanol on Texas Food and Feed," Agriculture Food and Policy Center, Texas A&M, April 2008

capital into commodities. According to the March 31 edition of the financial publication Barron's, "The speculators' bullishness may be way overdone, in the process lifting prices far above fair value." According to Bloomberg, "…commodity-index funds control a record 4.51 billion bushels of corn, wheat and soybeans through Chicago Board of Trade futures, equal to half the amount held in U.S. silos on March 1. The holdings jumped 29 percent in the past year as investors bought grain contracts seeking better returns than stocks or bonds. The buying sent crop prices and volatility to records and boosted the cost for growers and processors to manage risk."

Anecdotal reports from commodity analysts suggest that as much as one-quarter of the current price of nearby corn futures is due to speculative investment—primarily large index funds and commodity pools. This means if you take the speculators out of the market, corn futures would likely be in the $4 to $4.50 per bushel range.

Again, we know there are several other factors driving corn demand and price that are frequently overlooked. Consumers in nations like China and India are demanding more protein and more calories. Just as China and India are driving global energy markets, they are also a major demand driver in agricultural markets. Increased meat consumption is most significant in China where it has tripled in the last two decades and continues to grow at 4% - 5% per year. Globally, per capita meat consumption has grown from 30 kilograms in 1980 to an estimated 43 kilograms today.

In addition to increased meat exports to China, India and elsewhere, USDA is projecting the corn industry will export more corn than ever before in 2008 to satisfy increased feed demand in Central America, Asia and other regions.

Certainly, currency valuations play a role in surging exports. The relative weakness of the dollar is encouraging stronger exports and is making U.S. ag products a good buy on the world market. In 2007, the dollar weakened against the currencies of our largest trade competitors. The biggest reduction was versus Brazil, at over 17 percent, but the dollar also declined versus the euro (10 percent) and the Chinese yuan (5 percent).

And despite higher feed costs and tighter margins, the amount of corn demanded by the U.S. livestock and poultry sector will be 10 percent higher this year than last. This proves the livestock industry has not yet contracted and that meat demand is strong.

It would be disingenuous to say that ethanol is not a factor in heightened corn demand. But how much of a factor is it? If we look purely at supply and demand numbers, we see that the corn supply has grown large enough to accommodate increases in ethanol demand.

For example, in 2006, corn growers produced 10.5 billion bushels and used 2.2 billion bushels for ethanol, meaning 8.3 billion bushels were available for other uses. Additionally, the equivalent of 600 million bushels of corn was returned to the feed supply in the form of distillers grains. In 2007, corn farmers grew a record crop of 13.1 billion bushels and are expected to use 3.1 billion bushels for ethanol, meaning 10 billion bushels are available for other uses. Nearly 900 million bushels of corn equivalent feed will be returned to the feed market in the form of distillers grains this year. So, yes, the amount of corn used for ethanol is growing, but so is the amount of corn available for other markets and so is the amount of distillers grains-one of the major benefits of using corn as a feedstock in ethanol production.

TECHNOLOGY ADVANCES

Furthermore, meeting the food and energy needs of a growing world population requires cutting-edge technology and innovation. New technologies are allowing U.S. corn farmers to produce substantially more corn per acre of land in a sustainable way, and with more countries adopting biotechnology, yields globally will be substantially higher, further helping to meet growing demand for food and fuel.

Today's corn seeds are produced using the latest advances in plant biotechnology and plant breeding. The best traits from one corn variety are combined with complementary traits from other varieties to produce more productive and stronger corn plants. Last year, corn farmers produced an average of 151.1 bushels of corn per acre. Consider that 10 years ago in 1998, the average production pr acre was 134.4, and 20 years ago in 1988, the average was 84.6 bu./acre.

Corn productivity per acre is increasing at an accelerated rate because of new advances in marker-assisted breeding, biotechnology and improved farming practices. Increased yield per acre allow growers to harvest considerably more corn without significantly increasing acreage. Based on past performance, average production per acre is projected to hit 175 bu./acre by 2015. However, if productivity gains continue to increase at the rate of recent years, average yield per acre could easily reach 180 bu./acre by 2015. Seed technology providers have stated corn production could reach 250 to 300 bushels per acre by 2030. Improved management practices also play an important role in increased productivity, and the increased adoption of tools like GPS yield mapping and precision nutrient application are helping farmers grow more corn per acre while conserving inputs.

INPUT COSTS

Another factor that is often overlooked in this debate is the soaring price of energy on farmers. Due to surging energy prices, the cost of producing corn has increased tremendously in recent years. Though our energy efficiency is constantly improving, a considerable amount of fossil fuel energy is required to produce our bountiful grain harvests.

According to the Energy Information Administration, the cost of diesel fuel averaged $4.18 last week, an increase of 48.6% over the same time last year and more than double the price from April 2004.

Undoubtedly, the main factor driving production costs to unprecedented levels is skyrocketing fertilizer costs. The farm price for nitrogen fertilizers—most of which are derived from natural gas—has increased more than 60 percent just since 2006. Additionally, between January 2007 and February of this year, the price of two other important fertilizers—potash and diammonium phosphate—increased 139 percent and 155 percent respectively.

In fact, the Center for Farm Financial Management forecasts fertilizer costs per acre in 2008 will be double 2002 costs. And because fertilizer costs represent about 40 percent of a farmer's variable production costs, these price increases are having a tremendous effect on profit margins and risk.

Higher natural gas prices also increase the farmer's cost of drying grain and, in some cases, irrigation. Land prices and cash rent prices have also increased tremendously due to the heightened value of agriculture products. Additionally, seed prices have nearly doubled in the last four years.

These sharply higher input costs make growing corn in 2008 a costly proposition. Though the farm price for corn is indeed higher than in the past, the farmer's profit margins are not all that much different than they've been historically.

ACREAGE TRENDS

Additionally, there is much misinformation being circulated today on agricultural land use and crop allocation. We hear blatantly misleading statements in the press about corn acres displacing wheat, soybeans, and other crop acreage. We also hear the false rhetoric that increased demand for corn is leading to cultivation of grassland and other non-agricultural lands.

The truth is, farmers respond to signals from the marketplace when they make their planting decisions—they always have and they always will. In 2007, the market sent a clear signal to farmers to plant more corn and they did. Farmers planted 93.6 million acres of corn—the highest level since 1944—and produced a record crop of 13.1 billion bushels. In 2008, the market is calling for more wheat and soybeans, so farmers are expected to plant more of those crops and less corn.

It is notable that U.S. wheat acres are up for the third consecutive season and will be at their highest level in 10 years. U.S. soybean acres are likely to be 18 percent higher than last year. USDA's projection of 74.8 million soybean acres in 2008 would be the third-highest level of soybean acres in history. Additionally, barley acres are expected to be at their highest level in the last four years.

Corn acres will be down in 2008, but still at historically high levels. Given normal weather conditions during the growing season, it seems very likely that farmers will produce the second largest corn crop on record even with a reduction in corn acres.

Despite strong demand for U.S. crops, the number of acres enrolled in the Conservation Reserve Program has not departed from the norm. An estimated 34.6 million acres of land is currently enrolled in the CRP program. That is actually above the 10-year average of 33.6 million acres. It does seem likely that some of those acres will be brought back into production incrementally as 10-year contracts expire, but this transition is not something that will happen overnight.

The total area planted for all wheat, feed grains, oilseeds, and cotton is projected to be 252 million acres in 2008, just 1 percent above 2007 levels. This disproves the notion that increased demand for grains and oilseeds is driving significant expansion of cultivated land in the United States. For some additional perspective, consider that the annual area planted to wheat, feed grains, oilseeds, and cotton in the early 1980s was approximately 290 million acres, 15 percent more land than is used today for those crops.

LAND USE CHANGES

Looking specifically at land use changes in relation to the increased RFS, Congress directed EPA to examine the role of direct and indirect land use changes in connection with expanded biofuels production. NCGA believes direct land use change as a result of biofuel production is a legitimate subject for environmental analysis. In contrast, global indirect land use change caused by U.S. biofuel production is uncertain and speculative.

Recent papers in Science by Searchinger, et al., and by Farigone, et al., purport to connect increased demand for corn for biofuel production with large, indirect land use changes to satisfy the demand for animal feed left unfilled because of the increased demand for corn. These indirect land use changes are in turn linked to large emissions of greenhouse gases, thereby incurring a "carbon debt" that the authors believe may take many years to repay. Unfortunately, there is much that is speculative and uncertain about these claims. The simple fact that U.S. corn acres will be reduced and soybean acres will be increased significantly in 2008 demonstrates the flawed logic of these papers; that is, there are significant physical constraints on land use and expansion of agricultural area. It seems much of the current thinking on land use assumes land is readily convertible. Also, the role of the potential to increase corn yields on existing farmland, while at the same time increasing efficiency of fertilizer and water use and protecting water and soil quality must also be considered.

Land use changes cannot be looked at in the singular context of increased biofuel production. The impacts and interplay of numerous global economic, social and political factors on land use also need to be considered. In particular, it is imperative that the impact of global energy markets on agricultural markets (and specifically land use) are understood and properly modeled.

Even if there were such data connecting increased corn demand for ethanol with land use changes, ethanol produced in the United States would be responsible, in a strict lifecycle analysis sense, for anything but its own environmental profile. "New" corn produced in Brazil by clearing savannah to satisfy animal feed demand is responsible for its environmental profile as an <u>animal feed,</u> not as an ethanol feedstock.

For example, plastic bottles are made from ethylene. Ethylene can also be used to make carpets. If demand for Ethylene to make plastic bottles grows, then more ethylene will be needed to satisfy the unfilled demand for ethylene carpets. But we do not make plastic bottle producers responsible for the environmental profile of carpet manufacturers.

Likewise, it is unfair and unreasonable to make corn producers who are producing feedstock for biofuel production responsible for the speculative land use decisions of individuals tens of thousands of miles away who are producing corn or soy for animal feed.

More so, the debate appears to suffer from a lack of understanding of current tillage practices and crop yield growth. Further, the value, carbon intensity, and usage of biofuel coproducts (like distillers grains) needs more thorough analysis in the context of land use change. Additionally, continuous corn systems store more carbon than corn/soy rotation systems, a fact that seems to be lost on many academics considering these issues.

Further, the effects of population growth on physical land use changes (such as increased urban and suburban development and the associated loss of land for other uses) need to be considered in any analysis. According to USDA-ERS, conversion of farmland to urban uses—including residential, commercial, and industrial development is on the rise. On average, 2.2 million acres per year of farmland were converted to urban uses between 1992-2001, versus 1.1 million acres per year during previous decades. Developed area—which includes urban areas plus large lot development, development in rural areas, and rural roads and transportation—made up about 6 percent of US land in 2002. As illustrated, many factors need to be considered in a larger context when looking at land use changes dealing with biofuels and agriculture.

In conclusion, NCGA sees the Renewable Fuels Standard as a critical part of domestic energy security. Its inclusion has strengthened our energy policy and further diversified our nation's fuel supply in a time of global volatility and increasing demand for energy. Corn growers will continue to meet the growing demands of food, feed and fuel in an economical and environmentally responsible manner.