

TESTIMONY OF JACK HUTTNER, VICE PRESIDENT, BIOREFINERY BUSINESS
DEVELOPMENT, GENENCOR, TO THE SENATE COMMITTEE ON ENERGY AND
NATURAL RESOURCES HEARING: “THE RELATIONSHIP BETWEEN US RENEWABLE
FUELS POLICY AND FOOD PRICES”

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I would like to thank the committee for inviting me to testify today. I am here on behalf of my company, Genencor, a division of Danisco A/S, and the Biotechnology Industry Organization – BIO, of which Genencor is a long-standing member.

Genencor is a leading industrial biotechnology company with over 1500 employees around the world. Our specialty is the development and production of biotech enzymes for the ethanol, detergent, textile and feed industries.

BIO’s members include enzyme producers, like Genencor, as well as agricultural seed companies, oil companies, first and second generation biofuels companies and dedicated energy feedstock developers. Each is helping to deliver technologies that enhance agricultural productivity and energy security, boost the rural economy and deliver a cleaner environment.

I wanted to start by thanking you and your colleagues in Congress for your continued support of the emerging biofuels industry in the US. A sound public policy foundation is essential to our shared vision of a strong, sustainable future economy in which America’s farmers continue to produce abundant supplies of food and feed while also helping to meet our growing energy needs. We at Genencor, and our colleagues in BIO, are working hard to help make this vision a reality.

Recently, the media has been full of stories linking food price increases to ethanol production. This is a false debate. We have the ability to produce both food and biofuels in abundance. Many commentators have noted the various factors driving global food price increases, including dramatically rising oil prices, booming demand for animal feed in China and India, drought in agricultural producing regions and the weak US dollar. And yes, biofuels production, although experts have repeatedly pointed out that biofuels production is a relatively minor cause of food price increases. I would note that the prices of agricultural commodities that have little or no relationship to biofuels, such as rice and wheat, have risen right along with corn and soybeans. As Dr. Otlaw has testified, the study recently released by Texas A&M University found that the primary underlying force driving price increases in the agricultural industry, as with the economy as a whole, is higher energy prices – \$100 + per barrel oil in particular – and that somehow freezing, rolling back or eliminating the RFS would not result in significantly lower corn prices. In fact, Merrill Lynch estimates that without ethanol, gasoline prices would be at least 50 cents higher than they are today, further exacerbating the pressures on food and commodity prices.

There is another story that the media has not been telling so effectively -- the story of steadily increasing agricultural productivity. We have seen a decades long year –on-year crop yield improvement. And, we are about to see a dramatic increase in that rate of improvement in the near future. New plant varieties are steadily becoming more drought and pest resistant and more efficient in their use of fertilizer. Yields, the amount of corn, soybeans, or other product per acre, are rising steadily. This partly explains why we believe there is no long term food and fuel tension. In the last decade, global consumption of corn has risen almost 35%, and soybeans over 50%. That increased production was achieved with only a 6% increase in planted acres –

this is the power of increasing yields, which act like compounded interest adding more production each and every year. In the mid-1970s, America was producing about 90 bushels of corn per acre. Today, just 30 years later, that number has increased to 150 bushels per acre. We are on our way to 200 bushels per acre in the next decade. In fact, McKinsey & Company estimates that if current yield trends continue, no more additional acres will be needed to meet the 15 billion gallons of conventional starch based ethanol required by the RFS.

Improving agricultural yields have not been uniformly achieved, however. Many parts of the world are still using agricultural practices that are many decades old, and have agricultural yields one quarter that of the US. Indeed, the world wide average corn yield per acre is 50% of the yield in the US. In some countries, corn yields are below 30 bushels per acre, just one-fifth of ours. On Tuesday, the Wall Street Journal featured a story on the food crisis. The story reported on new thinking by development agencies that have refocused attention on the need for increased investment in seeds and fertilizers in the developing world. The real policy focus should be on how to help other parts of the world such as Africa, Eastern Europe and Asia, expand agricultural productivity. In many countries, there is a huge upside opportunity in agricultural productivity from existing acreage. We can grow our way out of this if we can expand the distribution of agricultural progress.

In addition to increased yield, there is another reason for optimism. The US biofuels industry is on the verge of commercializing second generation technologies that will use non-food feedstocks, like corn stover, switch grass and waste wood. Indeed, Genencor and DuPont have just formed a joint venture to develop this technology and we hope to have our pilot plant operating in 2009. Within five years, we expect to be producing commercial quantities of cellulosic ethanol. Is there enough biomass to produce significant amounts of second generation

biofuels? To answer this question, BIO recently produced a report on the sustainable harvest of cellulosic biomass for biorefinery feedstock. Based on published USDA data, it concluded that farmers could supply over 200 million dry tons annually of corn stover. This is enough feedstock to double ethanol production from America's corn acres. Much of this biomass will be processed at existing ethanol facilities retrofitted to handle cellulosic feedstocks in addition to grain. That's why the infrastructure being developed for today's ethanol industry is so vital to the next generation as well.

Everyone understands the impact of higher commodity input costs that we all face. I am very concerned, however, that critics of biofuels and the RFS are pointing the finger of blame at the wrong culprit. If Congress over-reacts, our ability to bring next generation biofuels to market could be badly damaged. We need the RFS to set the floor for biofuels demand so companies like Genencor and DuPont will continue to invest in second generation biorefineries.

Of course, we can't simply depend on corn alone. In addition to agricultural residues, BIO member companies like Ceres and Mendel are developing dedicated energy crops like switchgrass and Miscanthus as biorefinery feedstocks. In fact, Ceres just introduced the first commercial switchgrass variety that will be on the market at the end of this year. These crops will bring new revenue to farmers and increase biomass yield per acre with the lowest possible water and energy inputs per ton.

Cellulosic ethanol is on the verge of becoming a viable industry. The long standing support of the US Government for basic research, applied R&D and demonstration facilities will soon be paying off. Congressional authorization and funding of the USDA and DOE, for example, have made the transition to cellulosic ethanol possible. These investments have laid

the groundwork for a new, low-carbon economy. This is an economy that uses renewable carbon from plants to replace fossil carbon for the production of fuels and chemicals.

This is about more than just ethanol. Many BIO member companies are working aggressively to commercialize other advanced biofuels, such as the bio-butanol that DuPont is developing with BP. Existing ethanol infrastructure can be retrofitted with this technology. Several cutting-edge companies are developing “renewable hydrocarbons” to make gasoline and diesel from carbohydrates and algae. In the future, biorefineries will be scattered throughout the rural landscape converting biomass into many different products, all with a reduced carbon footprint. This is the promise of the biobased economy.

Perhaps the history of the oil refining industry is informative to the current biofuels debate. It was in 1853 that the first petroleum product – kerosene – was produced from seep oil to replace whale oil. It has taken over 150 years for the modern oil refinery to evolve from that point to where it can take in a barrel of crude oil and produce a myriad of downstream products.

Modern biorefineries are at about that stage of development. We are at the beginning of the biorefinery journey – not the end. Twenty years from now, modern biorefineries will use a variety of renewable feedstocks and produce a variety of products and liquid fuels. But the ethanol plants we are building today, and the infrastructure supporting them, is the foundation we will build upon. Without a robust and stable policy framework, the journey will be much more difficult, if not impossible. We hope Congress will not be stampeded by our critics to reverse the biofuels policy Congress has worked so hard to develop and enact. We must keep the RFS in place and stay on course to realize the great commercial and environmental potential that a biobased economy can bring.

Thank you.