

**STATEMENT OF DEAN OESTREICH  
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**SENATE AGRICULTURE COMMITTEE HEARING  
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Chairman Harkin, members of the Committee, thank you for the opportunity to address an issue that is on the minds of so many Americans and others around the globe: meeting the world's food, feed and fuel needs. Pioneer, and our parent company, DuPont, are deeply concerned about this issue and are actively engaged in identifying solutions. From discovering ways to produce more grain to adequately meet these needs, to helping farmers around the globe be more successful and profitable in agriculture, DuPont is using science to deliver solutions to this issue. Policies should help us expand agricultural productivity worldwide. I look forward to working with you as you seek to craft effective U.S. policies to expand global agricultural productivity.

Specifically, I have been asked to share our perspective on the role that increasing agricultural productivity can play in meeting the world's needs for food and fuel. I want to be clear: we fundamentally believe that agriculture **can** provide for the world's food, feed and fuel needs. We do not need to choose among any of these priorities.

Pioneer Hi-Bred is the world's leading supplier of advanced plant genetics to farmers around the world. I have the privilege of serving as Chairman of Pioneer. When our business was founded in 1926 by Henry Wallace, former Secretary of Agriculture under President Franklin Roosevelt, increased farmer success through productivity was the foundation of Pioneer's inception and continues to be a guiding principle for us. The track record of American agriculture keeping pace with global demands since 1926 is impressive and one in which we are proud to have played a key part.

At that time, for example, corn yields in the U.S. were about 27 bushels per acre. Since then, corn yields have increased dramatically – today the average yield in this country is about 150 bushels per acre. These gains have come from steadily improving plant varieties that yield more, require less inputs, and are more resistant to insects, disease and bad weather. Over this same time period, the global population has increased to approximately 6.5 billion and nearly one to two billion inhabitants are projected to be added every 12 to 15 years. And yet, these dramatic yield increases were achieved with only minimal increases in acres planted. In the last ten years for example, global corn production has increased by 32%, global soybean production has increased 56%, but the total acres of land used for such production has increased only 6%. Advances in technology and agricultural productivity have created nearly 150 million “virtual acres” in the US in the past quarter century.

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And through increased investment in research and strong intellectual property protection to promote agricultural innovations, we will continue to help the United States keep pace with rapidly expanding global population and production demands.

It is important to note that, unfortunately, much of the rest of world is far behind the U.S. in productivity increases. Today, farmers in some regions reach only 20% of the productivity levels enjoyed by farmers in the U.S., because they lack access to modern seeds and farming methods, credit, technology, collaborative extension services, and global markets. This means there is tremendous opportunity to expand agricultural production in the world to meet our food, feed and fuel needs.

Many barriers exist that prevent or limit access to much-needed inputs in the developing world. In particular, I am referring to: access to credit, access to improved seeds and chemicals, limited product and agronomic knowledge, and lack of secure land tenure. The good news is that every single one of these limitations can be overcome. It is important to create and support policies that promote investment in global agriculture, which will strengthen the US economy and help farmers in developing countries be more successful also.

For example, lack of access to credit and risk management products, such as insurance, is a major obstacle for small-scale farmers in developing countries. They need lines of credit to invest in quality inputs and to purchase or lease land. And access to insurance programs can help reduce their vulnerability and increase incentives to invest. Many innovative pilot programs have had great success in spurring development.

For example, in Malawi, an innovative program launched in 2005 for groundnut farmers, helps them obtain certified seed, which resist disease, thereby increasing yields and profits. In addition, the National Smallholders Farmers Association of Malawi designed the index-based weather insurance contract. This program was a collaboration among several entities and ensures that if a drought leads to insufficient groundnut production, the bank pays the loans of insured farmers directly.

If there is no drought, the farmers benefit from selling the higher-value production. This is the first time that such index-based weather insurance policies have been sold to smallholder farmers in Africa. In 2003, a similar pilot was started in India, and has been expanded to more than 250,000 farmers.

These programs provide much needed security to farmers, which encourages investment and expanded development. Programs like these need to be replicated and scaled up.

Having access to the best inputs is also critical. Modern technologies can accelerate the development of seeds that better tolerate drought and salinity; utilize nitrogen more efficiently; resist pests and diseases; and provide improved nutrition. Public and private researchers should collaborate to speed development of these technologies. And governments should pave the way for the introduction and accessibility of these

technologies. Our focus should be on providing farmers with a reliable and competitive choice of quality inputs so that they can prosper, not just survive.

Access to quality inputs in developing countries is just part of the answer. Having access to quality extension services and agronomy programs, which are necessary to empower farmers to make product choices, based on what they can see works in their own environment, are essential.

Whether internationally or domestically, advanced plant breeding, biotechnology and other innovations hold potential to continue the impressive productivity gains that farmers have demonstrated by delivering more bushels per acre with reduced water and fertilizer resources per unit of production. Improvements in technology and breeding hold promise to improve grain quality as well as quantity. By producing wholesome, disease-resistant grain, farmers experience reduced levels of grain damage and waste in the harvesting, handling, transportation and storage processes used in modern grain production. High quality grain, when combined with new, more efficient biofuels production technologies can maximize the energy output per acre and provide valuable feed co-products to support a healthy livestock industry.

Pioneer believes that increased productivity is a fundamental component of meeting food and fuel needs and we are committed to enhancing the productivity of the biofuels industry. We are taking a holistic approach that focuses not only on overall corn grain yield per acre, but also on increasing yield and co-product value per bushel. For example, by developing hybrids that produce grain ideally suited for ethanol production, it is possible to produce more ethanol from a bushel of grain. Furthermore, Pioneer developed the first grain assay to accurately predict ethanol yield in corn. We have found a 7 percent variation in ethanol yield potential among our corn hybrids. In 2007, more than 180 Pioneer ethanol hybrids were identified as part of our overall Pioneer IndustrySelect® program to maximize the productivity of our seed products and bring our customers greater value.

In addition to improving the ethanol potential of grain, Pioneer also is researching ways to enhance the value of feed co-products, since nearly one-third of grain used to produce ethanol enters the feed stream as a co-product, Pioneer researchers are targeting discovery research efforts to increase the amount of fermentable starch in corn, as well as increase the feed value of distillers' grain. We are working with ethanol processors and input suppliers (enzyme companies) to better understand ways to improve overall process efficiency by matching our product development targets with processing technologies of the future.

Furthermore, we are also developing crops to have added value in the growing biodiesel industry. Canola hybrids have been developed that have substantially higher levels of oil, the primary ingredient in biodiesel production. Pioneer has characterized high-yielding soybean products for higher oil and protein levels, ideal for meeting the needs of the soy biodiesel market.

DuPont has a significant effort to deliver new technologies to the growing biofuels market. In addition to improving corn for ethanol production, DuPont is developing and supplying new technologies to facilitate the conversion of cellulose to biofuels. Next year, we will start up a pilot plant to produce ethanol from corn stover and switchgrass, further expanding the fuel production and efficiency from existing acreage and allowing us to make biofuels from non-food feedstocks. The company also is developing biobutanol, a high performance biofuel with improved performance characteristics, including better fuel mileage and compatibility with existing fueling infrastructure.

In conclusion, I urge the members of this Committee to remember that America's farmers and our agriculture industry have a long history of effectively meeting food, feed and fuel needs. And certainly, Pioneer and DuPont are not the only companies in the input side of production agriculture who are working to find innovative and sustainable ways of meeting these needs. As you know, we have recently joined with ADM, John Deere, Monsanto and the Renewable Fuels Association to form the Alliance for Abundant Food and Energy, dedicated to sustainably and responsibly improving diets around the globe and reducing dependence on fossil fuels through agriculture productivity worldwide. We can continue to do so if we promote scientific advances and effectively use these new tools to build on our successes. But our focus cannot just be on the U.S. ag industry and economy. We must also do more to increase productivity in other countries, particularly the developing world, through greater access to inputs, affordable credit, robust extension services, as well as increased research and development through collaborations.

Pioneer and DuPont are committed to working with you and your colleagues in Congress to do our part to help our nation's farmers meet global food and fuel needs.

Thank you, and I would be glad to answer any questions.