

THE WORLD FOOD PRIZE
2009 NORMAN E. BORLAUG INTERNATIONAL SYMPOSIUM
Food, Agriculture, and National Security in a Globalized World
October 14-16, 2009 - Des Moines, Iowa

OPENING KEYNOTE SESSION:

FOOD, AGRICULTURE, ENERGY, AND THREATS TO GLOBAL SECURITY

October 14, 2009 – 1:00-2:30 p.m.

Ambassador Kenneth Quinn – President, the World Food Prize Foundation

Our second speaker is Ellen Kullman, the CEO of DuPont, who became president in 2008 and CEO on January 1, 2009. She's remarkable in several ways. First, she's only the 19th person to lead the company in more than a 206-year history. Secondly, she's a kid from Wilmington. She grew up just a few blocks from the company and has been working there since 1988, working her way up and proving her ability in an amazingly diverse array of experiences that began in '88 as a marketing manager for medical images, then was a global business director in printing and publishing.

She was the leader of the DuPont Safety and Bio-based Materials, group vice president of DuPont Safety and Protection, executive vice president, and now at the top of the company – a remarkable climb.

She has an engineering degree from Tufts; her daughter is going to school there now. And she has a master's degree in management from Northwestern where John Ruan and his daughter and his son-in-law all also have degrees.

So for many, many reasons, we're delighted to welcome you here today. Please join me in welcoming Ellen Kullman.

Ellen Kullman – CEO, DuPont

Well, thank you, Ken for that introduction and the family history. But it is really just a great opportunity to be here to speak today. I mean, the World Food Prize does very important work in acknowledging the efforts daily by thousands around the world to increase the availability of nutritious food to millions of people. And we at DuPont are very proud to participate.

And, congratulations, Dr. Ejeta – it's been phenomenal meeting you and reading about your accomplishments. And I think it's through celebration of these accomplishments and just getting the word out that I think more and more work will be done to further the cause.

I'd like to start by sharing a quotation from an issue of an old DuPont publication. The quote is this: "I am cautiously optimistic. Despite all of today's gloom and doom, we live longer in a better life than all previous generations. But solutions to problems can be synthesized and implemented only by well-informed, clear-thinking minds with positive points of view. You can't hope to win the game of life with negativism."

Well, that was from a 1982 issue of *DuPont Context* magazine, and the person speaking was Dr. Norman Borlaug. I know you all have your own stories and recollections of Dr. Borlaug, and we at DuPont proudly remember him as one of our own, if it was only for three years at DuPont's experimental station, our premier research laboratory; and he worked there in the early 1940s. And it was from there he went off to Mexico and then into history.

But I think his words are excellent advice for all of us here today: be well-informed, think clearly, maintain a positive point of view. He will be missed, but his legacy will continue with this group. And we honor him in a

special way if we try to mirror his spirit and outlook as well as continue the work he advanced so exceptionally during his lifetime.

According to the United Nations, agricultural output will need to double by 2050 to adequately feed the about 9.3 billion people expected to be alive at that time. This increased productivity will need to occur as available arable land and resources shift and remain unchanged and in some areas actually decrease.

Worldwide more than one in six people are already starving, and that total is roughly the equivalent of the populations of the United States, Indonesia, Brazil, Pakistan and Bangladesh combined. And even for those people who are consuming sufficient calories, as many as half of them are considered malnourished, lacking suitable amounts of essential nutrients, vitamins, and minerals to ensure good health.

As the human population grows, more people will grow hungry, and fewer will have access to the nutrients that their bodies need – unless there are innovations that can meet the different needs of different people in different places around the world; that's the key.

As one of my DuPont colleagues recently said at the World Seed Conference, we know some will want to debate methods and processes or debate the science or even debate the motives, but at the end of the day, it's up to us as plant breeders to do everything we possibly can do to help ensure that no one goes hungry.

Increasingly, global food production is so significant [that] about 50 percent of our research dollars at DuPont is dedicated to increasing global food production. A large portfolio of DuPont's products and solutions that exist or are in the pipeline will address this global need. And we agree that agricultural output must double if we're to meet the needs of the world's population in the year 2050.

But because the mission of our company is sustainable growth, we believe it must be done in a sustainable manner to reduce agriculture's environmental footprint and conserve the very precious resources that are available to us.

All of us in the room today touch on an aspect of the agricultural value chain in one way or another, whether it's through research, development, or policy. And I think the one thing we can all agree on is that, when it comes to increasing global food productivity, there is no one-size-fits-all solution to accomplish this task.

We know it's going to require cooperative efforts across industries, across geographies, and between public and private entities. With all of us working towards this common goal, we can leverage many opportunities throughout the agricultural value chains to feed our growing global population.

The challenge before us in the decades ahead is one of quantity and quality – enough food for all, and all the food nutritious and healthy. First, let's address quantity.

The agricultural industry must accelerate the rate of improvement in food productivity. At DuPont we believe, in the next nine years alone, we can increase corn and soybean yields by 40 percent. And it's not just us; others are making similar commitments to increase agricultural productivity.

The seed industry must continue to preserve, refine, and utilize the diverse germplasm pools available – along with all the tools of modern plant breeding – to bring improved products to farmers faster: products that drive yield through more efficient and sustainable use of water, nutrients, soil and land area, as well as through herbicide tolerance and resistance to pest and disease.

Agriculture input providers have to continue to develop cutting-edge crop partnership products with increasingly lower use rates and better efficacy.

In the area of biofuels, new technologies and processes are making it possible to get more out of each unit of grain. New technologies are allowing for the conversion of cellulose to ethanol, creating possibilities to use the entire corn plant to produce ethanol, rather than just the starch from the corn kernels. And by converting

nearly all the simple and complex sugars in corn plants into ethanol, we can increase the amount of ethanol per acre while maintaining sustainable ag practices.

Biofuels such as biobutanol, developed for improved performance, are another example of more efficient grain use. These fuels contain energy content closer to gasoline, so the result is better fuel economy compared to the current biofuels.

And lastly, in terms of increase in quantity of the global harvest, further efforts are necessary to make sure farmers around the world, both large and small, have access to seed technologies and also to the best knowledge that will allow them to increase their productivity.

Last week I was in Asia. We were visiting employees and customers, partners and government officials. And in China I was reminded how critical agriculture advancements will be there and in other developing countries in Asia, where in many areas farmers still plant open-pollinated varieties by hand. These are markets where population and incomes are growing and, as a result, driving better diets with more protein.

Not only are we challenged to bring new technologies to these markets, from hybridization to Bt corn, but we need to provide the right tools and agronomic knowledge.

In rural areas of India, for example, we're supporting Access Development Services in an initiative called Uday. The goal is to make farm inputs and agronomic advice available to thousands of men and women in small farming operations who previously did not have access to these tools. Uday has established six agribusiness resource centers and more than 200 best-practice and product farmer-demonstration sites. We believe we can help increase small-farmer income levels by more than 30 percent.

And let me give you another example, this time from Africa. In Ethiopia we've helped growers teach other growers how to increase their yields. Pioneer has helped farmers in Ethiopia shift from open-pollinated corn to the benefits of corn hybrids. And in the past 13 years, our customers in Ethiopia have gone from planting no hybrids to planting about 25 percent of their farmland with hybrids; this has quadrupled – *quadrupled* – their yields.

So by working with farmers beyond the seed sale – providing agronomic information, claim handling, really personalized customer service onsite, and more – we have helped them become self-sufficient in food production while they also can earn an income from farming. And this has resulted in improved incomes as well as improved quality of life and benefits for farmers as simple as being able to send their children to school with adequate supplies.

Sustainably increasing the volume of food produced is key to feeding the world in 2050. But we also need to look for solutions that increase the nutrition and quality of our foods. We can do this by providing packaging structures made from renewable resources while protecting food from spoilage and contamination; developing high-yielding soybean varieties that produce healthier oils and efficiently working with soy protein to make great-tasting, nutritious soy foods more accessible; investing in partnerships like the Africa Biofortified Sorghum Consortium, where DuPont is working with other organizations to develop high-yielding sorghum varieties that contain higher levels of nutrients; and continuing to innovate in food-safety diagnostic technology. We have a system called the Qualicon BAX system that helps protect people and also detect problems before they become large-scale recalls and can waste a tremendous amount of food and resources.

There are many things that contribute to the mission of increasing agricultural output, but the collective success in meeting the goal will be limited if we can't find ways to track our progress and hold ourselves accountable. So that's why we were happy to partner with people like Archer Daniels Midland for the Global Harvest Initiative that Pat talked about, [which] kicked off a few weeks ago. The organization recognizes the need to double our agricultural output by 2050 and is spurring the development and sharing of agriculture innovation with those that need it most.

But my favorite part of this initiative is the commitment to set milestones. You know, in business, what gets measured gets done, and we in our company have a strong track record for making progress – whether it's in safety or environmental progress and improvements – by setting goals and meeting them. So by setting milestones and tracking them in this area, I think we can make a meaningful difference in agricultural productivity.

The global productivity gap is not an issue that any one company, that any one research center, one university, one government, can solve – so we need to get beyond the sector mentality of private-versus-public and work across these boundaries, across companies and institutions, if we are going to be successful. Working together, we can more quickly develop sustainable solutions with a positive and lasting impact.

Each year, the diversity of the international gathering here for the World Food Prize dramatically underscores this. And as we look around the room and we move from event to event, we can see the individuals and we can see the institutions that collectively represent the solution to increased food productivity worldwide. This cooperative approach is absolutely essential to a true, 21st-century solution to food productivity.

At DuPont we're excited about what we as a company can contribute, but we are even more excited by what all of us are able to accomplish together. Thank you.