

**Farm Credit Council Annual Meeting
Monday, January 25, 2010
9:50 – 10:20 a.m.**

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Monsanto Company**

Global Harvest Initiative

Thank you, Mike.

Good morning and thank you for the opportunity to be a part of your program.

First, thank you for the role you play in enabling American farmers to grow a crop each year, a business over decades, and teach a new generation. I know from my family's farm in Wisconsin the critical role the partnership with FCS played in our family farm's operation and development.

I'm here today as one of the four founders of the Global Harvest Initiative, a year-old advocacy organization whose mission is to find the way to sustainably meet the agricultural needs of a growing world. My company, Monsanto, is joined with ADM, DuPont and Deere to found the Global Harvest Initiative. We hope many more companies as well as members of civil society—really, anyone who wants to join the fight to empower the world's farmers ag system to meet the needs sustainably, to come and join the mission.

Very simply, our goal is to meet the expected 2050 global demands of anything coming from the farm – that demand is expected to be about double by 2050, vs. 2000. And we need to find a way to do it in a manner that uses precious natural resources like land, water and energy more sparingly, while conserving these and topsoil for future generations.

One way to get this incredible challenge in our heads is to realize that we need to produce as much over the next 40 years as we have in the last 10,000, and do it on about the same amount of land.

We can likely get another 10-12%, but each year more comes at great environmental cost. We need to accomplish most of it through yield gains. And we will need to do this in the face of physical challenges like less H₂O to irrigate, climate change, and perhaps equally important image, as we'll live in a world in which is increasingly urbanized, and influenced by social media that may have unfounded and unrealistic

opinions about farming. If we don't manage to communicate well, it will have a profound impact on the freedom to farm with modern, efficient methods for everyone's food availability and affordability, and the economy as a whole.

We are going to double yields by making progress every year. I know you work with farmers every day, and many of you farm yourselves so you know America's farmers have made great progress each generation. But unlike some things like cell phones, iPods, things can't change overnight in a business with one season a year.

Agriculture is about continuous progress, both learning from the last generation, and taking advantage of technology.

It also means we have to do a great job with policy because you can't make up for the lack of planning very quickly. I'll talk more about that later.

GHI is founded on the belief that the solution doesn't lie within any one company, any one country or any one NGO. It will 1) require a policy and business environment that makes farming economically attractive, 2) drives investment in the future like R&D, 3) builds deeper partnerships both in the value chain and in public/private sectors where markets are not ready. In summary, GHI was formed to meet the 21st century's greatest challenge to help drive policy to create the environment for these three factors to help farmers grow sustainably.

To do this we want to bring together both the public and private sector leaders in agriculture, food security, and conservation to develop an integrated idea that can "close the gap" that exists between the current trajectory and what we must produce to meet the needs of 2050. It is about getting more from each acre already farmed in more places in the world, and getting the production to people.

GHI's success will depend on bringing together this diverse group of experts to develop and share ideas, and jointly advocate for policies that address six specific actions.

They are to:

1. Increase (competitive agricultural) research
2. Enhance food security through freer trade
3. Improve the effectiveness of U.S. foreign_development assistance activities

4. Offer greater incentives for innovation and conservation throughout the agriculture value chain
5. Promote science-based approval of new technologies and,
6. Invest in infrastructure to reduce waste and efficiently connect farmers with markets.

Let's talk a little about each of these.

First: increase the amount of competitive ag research in both the public and private sectors. Private investment in agriculture has steadily grown, especially in two areas. In the intersection of IT and equipment like auto steer equipment on live monitoring, and with the advent of biotechnology and the Supreme Court's decision to allow patenting plants. This has led to annual plant science investments from my company alone at over \$1B per year, and over \$2.5B annually in the industry. As these innovations are protected by patents it also means they come off patent and become public property—the first of that is happening in 2015. U.S. public investment has gone the other direction, as both domestic and ag development abroad fell dramatically.

Since 1950, there has been a steady decline in the growth rate of public ag investment from about 4% per year to 1%, despite the results of a USDA study that showed ag investment provides among the highest returns on investment – a mean average of 53%. If you consider that for every \$120 appropriated for the National Institutes of Health, the U.S. invests only \$1 for food and agriculture competitive research, we are at a real disadvantage.

The increase in competitive private investment is wonderful but needs to be accompanied by more public research. We are pleased by what we see with the USDA's new NIFA process Competitive Grants Program under Dr. Roger Beachy—it just needs to be properly funded.

Some good news –

We can see a new model of public-private partnership that can help stretch tight public research money. I can cite two examples, one involving my company and another with Mahyco, an Indian company. In both cases we are taking an idea where these privately funded inventions find a way to have both a commercial channel for markets that can pay, and earn a return, and a humanitarian approach where the market is not yet formed.

In our case it is a drought tolerant trait in corn, making it less risky for African growers to use inputs like fertilizer—which they often don't use for fear of droughts wiping out the crop. We've donated the technology and it is being developed in Africa by CIMMYT and five countries' national research centers, along with us. It is part of the same trait technology family we intend to commercialize here.

A project in India does a similar thing with a Bt gene in brinjal, or what we know as eggplant. It is the second highest consumed vegetable in the country and an important cash crop. Unfortunately, it is very vulnerable to a borer, with yield losses of 60+% even after 25 sprayings each growing season. The net result of the technology is 70% less spraying and a doubling of yield.

Mahyco, the Indian seed company who developed the biotech product, has also donated the bt brinjal technology to public research institutions to benefit a large number of resource-poor vegetable farmers.

So here we have examples of private research benefiting the public institutions and that allows resource poor subsistence farmers to use fewer pesticides, increase their yields, increase their income, while selling to most growers who operate in the cash market in India. A clear linkage of public and private R&D.

Our second policy: We can enhance food security through freer trade in ag goods and products. We must accept which crops can best be grown in different world regions and remove barriers that dull the economic signal for taking advantage of what nature provides.

This is not only economic, it is environmental. When we trade ag products, we are moving virtual water from a place where it rains enough, to one where they must pump water from sources likely to be stressed soon. I believe water will be the great challenge of India and China's farming in the next 40 years, and trade will matter greatly.

Third, we must improve the effectiveness of U.S. foreign development assistance activities. After a year without an administrator for USAID, last month the Senate confirmed Raj Shah as the head of this important agency. I don't believe President Obama could have chosen a more able leader. I've had the opportunity to work with Raj during his time at the Gates Foundation, and am firmly convinced that he will invigorate an agency that is our public face in many parts of the developing world. We've already seen this from Dr. Shah in Haiti—he's leading the U.S. disaster response.

GHI recognizes that the private sector has a responsibility to work with public sector groups like USAID and others to facilitate technology transfer from the first world to underdeveloped nations. This concept of smart power as described by Secretary Clinton can help the reputation of the U.S., and also develop markets in the long term.

Fourth: Greater incentives for improved conservation throughout the ag value chain. Farmers are rightfully often called the first environmentalists and know firsthand the importance of conserving soil and water. It's the personal family legacy. Seeing more soil lost is sad. The real fact—which often surprises many people who get facts only via the popular press, is that American farmers have made great progress in using resources more wisely. The Keystone Field-to-Market report has shown the combination of technology and farmer innovation over the last 20 years has resulted in each bushel of corn being produced with 37% less land, 69% less soil loss, 27% less irrigated water, 37% percent less energy, and 30 percent fewer GHG emissions. That is pretty darn amazing. And with continued improvement it will keep getting better. We need more consumers and policy makers to know what today's modern farmers are doing.

If you've seen my company's ads you know we are trying to do this. I know many of you are involved in your communities and you also tell the story.

Fifth: Promote science-based approval of new technologies. Innovators bringing new products to the marketplace must be confident that the standards they must meet are predictable and grounded in science, not ideology or protectionism. When our children look back to the decisions we as leaders make today, we want to be proud of the quality of the outcomes of these decisions. In agriculture, we first respect the laws of nature, and that means we can't magically catch up later for poor decisions today. Timelines matter. We get 1-4 years. In the U.S. alone, biotechnology has added \$50B in farm income the first 12 years of its existence according to a study by the National Center for Food and Agricultural Policy. This includes production gains of 141 million tons which would have otherwise required more land. A consistent, science-based policy matters, and I are pleased to see you lead on this!

And finally, invest in infrastructure to reduce waste and efficiently connect farmers with markets for their products. The U.S. does incredibly well – the FCS & Federal Crop Insurance Corporation are a big part of it. In developing countries, limitations in workable credit, local storage, refrigeration, and

transportation are all obstacles to food security. One of our members, ADM, feels strongly that this is an area where about \$20-30B of public and private investment can raise hundreds of millions of people out of hunger and poverty.

It is not always money though. Sometimes it is about taking the extra steps to connect a disconnected value chain. In Mexico, we and a few other companies including a crop insurer and a tortilla maker, partner in a program to help smallholder farmers in Chiapas to become economically sustainable by connecting inputs and outputs for them. Last year I visited them along with Howard Buffet, son of Warren, a real farmer and World Food Program ambassador. This program has a 5 year goal to self sufficiency and after only 2 years, these farmers who were never before in the cash economy, were talking with Howard about putting up their first grain bins to get better prices. Most have seen their incomes double or triple, and they say one of the greatest benefits of the program is that they no longer have to travel to the U.S. to earn an income.

Looking at these 6 areas we can see a more productive global agriculture is connected to so many other societal outcomes, like sustained rural economics and in the words of Dr. Norman Borlaug – Peace.

How do we make these 6 happen?

At Global Harvest, we are meeting with key government agencies, nongovernmental organizations and others within industry to make the case. We're actively inviting additional members to join the mission. If you want more information, please talk to Bill Leshner, our executive director, or any of the four member companies.

On March 17, GHI will host a symposium here in Washington at the National Press Club. The agenda will feature the authors of a study that provides a data driven approach to predict how we can meet this challenge. The program includes break-out sessions – we want diverse dialogue to identify how to best move forward. We have invited stakeholders in the hunger, conservation ,agriculture, trade, food industry and food security arenas to participate.

We're also working with the Farm Foundation to develop a Global Agricultural Productivity or GAP Report which we believe will be the world's first and only index to measure the ag productivity growth, and drivers of the growth. We want to drive a stake in the ground and establish a benchmark so we can

track progress annually at a global level. This index will help determine what gaps are to be filled and improve the quality and targeting of policy and investment decisions.

A challenge facing us is to be mindful of programs or policies that pit one group against another. That's natural but we can't let it get in the way. It is a critical time. It's a time to be solution-oriented. Like Secretary Vilsack, we do not believe there is only one kind of agriculture. We believe that diversity and common sense good neighbor based co-existence will lead to the greatest likelihood of provided choice for farmers and consumers, and accomplishing the goals of producing enough, maximizing people's access to it, and producing it by using precious resources judiciously.

We need a competitive and a collective effort if we are to close the productivity gap; one that brings all of our resources to bear, people that are often not in the room together. We need scientists, policymakers, farm leaders, anti-hunger and environmental thought leaders to work together to critically evaluate ideas and meet the challenges. This isn't an either-or-proposition. We need all ideas and everyone shoulder to shoulder to meet the challenge to double sustainability.

In closing, I would be remiss if I didn't tell you about the work Monsanto is doing to close the gap.

We are very serious about doing our part to double yields, both here and abroad. In 2008 we announced our commitment to sustainable yield with three components.

Producing More, Conserving More, and Improving Lives. We are making the investments to develop seed to double yields with traditional and advanced breeding, protected by biotechnology traits that deliver when coupled with the farmer's innovation. And we are committed to accomplish the doubling with each bushel produced using one-third fewer resources. And we know this won't happen without the first principle of sustainability. Farming has to be economically attractive. Our newer seeds will cost more—and they need to deliver even more in farm profits or farmers won't use them—here or anywhere else.

We invest about \$1 billion a year, or \$3 million every day, to develop better products for farmers. And our research pipeline is delivering results that reflect that investment.

Last month we announced that we have a record 11 biotech projects moving forward, including two in the field this year. Genuity SmartStax Corn that offers insect control both above and below ground, and

reduces insect refuge to 5 percent, for a 5-10% total yield increase over triples. The other is Genuity Roundup Ready to Yield Soybeans which deliver a 7% or more yield increase.

We are very excited about the next generation of products now in late stages of development like omega 3 soybeans, and drought tolerance, and others like increased nitrogen efficiency.

One interesting thing about the ag business—something I think we can all be proud of and gives me confidence—most people all around the world who are in ag, from the farmer, your leaders, our breeders, to the engineers at Deere, to the policy makers in Washington or Nairobi—most of them will spend their entire lives dedicated to this industry. That is unique to agriculture!

It gives me confidence we'll use our collective experience to meet the global needs, do it environmentally and economically on a sustainable basis for the entire system, especially the most important player in the system—the farm family. The challenge for the next 40 years is as big as any one we face on earth and bigger than any one I think we have faced in agriculture. At GHI we are optimistic about meeting that challenge by working together to get the right policy environment, and then as individual actors in GHI, living our commitment by each making the investments, creating innovative collaborations, and also aggressively competing – those actions may sound hard to do and do simultaneously – actually I think it is very doable and exactly what we have to do to meet the challenge.

Everyone in this room needs farmers to be successful, wherever in the world they're putting a seed in the ground. It's the hope of the Global Harvest Initiative that we will be able to provide them with the tools to meet the challenge of feeding the world, and preserving our earth. Thank you.