

# The Hormel Foundation Opening Remarks

Gary Ray, Chair  
April 16, 2015



## Resurgng Agriculture and Food Technology in Southeastern Minnesota

A Summit for Producers,  
Food Processors, Agribusiness  
Professionals, and Educators

**Riverland**  
COMMUNITY COLLEGE

**THE HORMEL FOUNDATION**

Ladies and gentlemen, welcome to the 2nd Annual Agricultural Summit. It's an honor to be with you this morning. I'd like to thank President Atewologun and the Riverland staff and faculty for all of the planning and preparation that has made today possible.

Some of you may recall that I was the kick-off speaker at the first summit we held back in November, 2013. A repeat engagement is something of a rarity for me; just one of my speeches is usually enough for anybody. In fact, most people tell me that I'm one of those "less-is-more" kind of speakers.

That said, I'm delighted to be back here because a lot has changed in a little more than a year. The last time we met, the phrase "big data" was not much in vogue – at least not when it came to farming – but now it's being talked about in every family farm office, at every agricultural meeting, trade show and in a thousand sales pitches a day. As one article quoted a farmer, "I didn't want to be the first one in, but I sure don't want to be the last one in either."

What this farmer – and many, many others – are talking about is the race to make big data work for agriculture – for the farmer, for the equipment makers, the insurers, the government, the manufacturers and – of course – consumers. Of which there are more and more of every day..the statistic that keeps popping up is that by the year 2050 Producers will have to feed nine billion people.

And feed at more than just subsistence rates; as living standards rise in India and China and other places, people want a diet that's more like what you and I have in the United States and less like

what their parents and grandparents experienced.

If we – and I use “we” deliberately because feeding the world is NOT just something for Producers to solve – if we are going to meet this challenge then technology, running by big data, is probably what’s going to get us there. As this audience knows only too well, the number of Producers are shrinking, the average age of Producers is growing and the acres of cropland are declining. The only factor I see working to counter these other trends is the adoption of technology on the farm.

Now, technology on the farm is not new. Producers have been using technology to be more efficient and productive since... well, since farming began. That said, until relatively recently farming looked a lot like it had for thousands of years: people and animals doing a lot of backbreaking work that produced – hopefully – enough food for subsistence. Then, with the arrival of mechanization and what would become the science of agronomy, Producers started climbing a very steep slope of technology adoption. This greatly improved their productivity and the lives of their neighbors, their communities and their own families. Thus, in a very real and direct way, Producers have made possible the progress of the global society we know today.

That trend has only accelerated in the last 50 years. The Green Revolution of the 1960s stimulated agricultural production worldwide, particularly in developing nations. Some of the technologies that are associated with that period – improved irrigation systems, more effective pesticides and fertilizers, the modification of crop species to improve yields among others –

are credited with saving millions of people. These advances had a tremendous effect on global agriculture. It’s widely estimated that calorie consumption in developing countries grew by 25 percent because of the Green Revolution.

The last 25 years we’ve seen technological innovation in terms of genetically modified organisms that are more resistant to disease, to drought and produce higher yields. And, at the same time, the rise of the Internet and the computing devices that are always connected to it have made farms across the planet part of the global marketplace, allowed for precision agriculture and an unprecedented level of data collection and analysis right down to the acre, the row or even the plant level.

Which brings us today. Today, American Producers have the ability to collect an amazing amount of data about their operations. They can collect data from sensors on their equipment, in their bins and from the drones above their property. They can merge that data with vast databases about weather and soil composition and seed performance. They can tap into market information that’s instantly up to date from around the world to sell their product, to purchase inputs and to manage risk. They can run endless “what-if” simulations that predict the outcome of each scenario.

In other words, this latest technology is a vital tool for the farmer who knows every acre, every crop, every pest, what every drop of rain and every degree of temperature means to his operation. It helps him get this knowledge out of his head and into a system that lets him measure effectiveness, to make precise determinations about crops to plant, harvest and sales. And, most importantly, it

lets him predict what will happen tomorrow next week and next season with an unprecedented degree of accuracy.

This isn't just theory. A 2012 survey of soybean Producers using data aggregation and management techniques reported a 15 percent savings on seed, fertilizer, and chemicals. Another study, from India, showed that using big data to implement just one improvement – precision leveling – on a farm increased yield by 16 percent and reduced water use by 50 percent. I guarantee you... anything that can reduce the use of water is of great interest to the Producers and other residents of California where 80 percent of their water is used for agriculture and where earlier this month the first-ever water-rationing restrictions were adopted.

One way to know if something is real or just talk is to “follow the money.” By this standard, agriculture and big data is real. Take just one player – Monsanto – as an example; they have made multi-billion dollar investments in this space just in the last few years. Monsanto acquired Precision Planting, a maker of hardware and software that helps Producers with seed space, depth, and root systems in fields, in early 2012. In October 2013, they bought Climate Corporation, a weather data analysis startup in San Francisco, for almost a billion dollars. Then, in February 2014, Climate Corporation bought Solum, a soil testing service.

Not surprisingly, Monsanto's FieldScripts software works with all of these systems to determine soil productivity and yield.

And, of course, Monsanto is far from alone. All the big ag companies have put money into this industry. Dupont Pioneer has used

precision agriculture technology for quite some time, but it has recently ramped up its services as well. Case IH, Ag Leader, and John Deere are all early adopters in precision agriculture and predictive analytics.

But for all this promise, reality is more limited. Even with everything that's available to him, more often than not, today's farmer doesn't have the resources to do much with all the data he can access. He doesn't have the time, he doesn't have the money, he doesn't have the training or the expertise. As a result, despite all of the things a farmer could do, many are sticking with what's worked so far instead of investing on what might make them successful for the decades to come.

But, as I said at the beginning of my remarks, that tide may be turning and more and more producers are looking to tap into the power of big data.

And, perhaps, the most important concern – and again it's a very legitimate concern – is this question: Who owns all of that data Producers are starting to collect, who has access to it and what can – and can't – be done with it?

Here's what one farmer said in an article I read recently:

*“My concern is, I'm out there trying to do the right thing with farming practices, and the GPS tracks everything. Am I going to get a phone call from the EPA, asking, 'Did you know you were spraying too close to this pond,' or 'You're in violation of this fertilizer limit'? There's a footprint wherever you go.”*

Being an optimist, though, I'm convinced that we will solve these challenges and work out the privacy issues and the other obstacles to making big data work for our Producers. I think the companies operating in this space understand their responsibilities in this area. And, given how important trust is within the agricultural community, if I'm wrong on that point and they don't, my guess is that they won't be in business very long.

In fact, I can see a day in the not-too-distant future when all of this data is not just a tool for managing the farm, it can also be a way to tell the story of agriculture and why it's so important to all of us. It's not too much of a stretch to imagine a day when customers at a restaurant will tap a display on the table or look at their meal through augmented-reality glasses and see the name and "about us" for the farm where each ingredient was sourced, the length and carbon footprint of the supply chain used to bring it to the table, the pesticides, feed or veterinary treatments that were applied and more. With big data, these technologies might reconnect consumers with their food – and with the people who produce it – in a way that's been largely lost to us over the last couple of centuries. If people are more connected to their food, they are more connected to the farm it comes from, and – I believe – more respectful of the people who produce it.

And that's why we're here today. As I said in 2013, we believe in the power of technology to improve every aspect of agriculture including its relationship to the rest of society. Riverland has long been a leader in working with Producers through training and education in the classrooms and in the fields.

And, we're here because we continue to believe that – through gatherings such as this one – we can do more.

This is important work. According to the USDA, agriculture and related industries contributes almost 5 percent - \$776 billion dollars – to our nation's gross domestic product. About 9 percent of jobs in the U.S. in 2012 are related to agriculture, including 2.6 million working directly on the farm. There are about two million farms in the U.S. with an average about 430 acres. What we do in meeting like this and day-by-day in the classrooms and in the field matters. The technology, while far from perfect, can help drive the solution. Riverland can be the place that brings those needs and solutions together.

The Hormel Foundation has a vision for the future and wants to be a part of making this possibility a reality. We strongly affirm Riverland's aspirations to become a regional – or even a national – center of excellence in the application of technology to agricultural operations. Such a goal is in keeping with our mission – to work directly for the benefit of Austin and its region – but it's also in keeping with the spirit of the Hormel family. We are proud to play a role in making those aspirations a reality. If we can develop partners with those in the room today and Riverland, The Hormel Foundations feels that this could be an ongoing, long-term partnership.

Let's have a great summit. Thank you for being here and for your participation.