



# 2017 Kernza / IWG Meeting Summary

## Day 2: Value Chains & Commercialization Breakout Session

2nd Annual International Kernza Meeting  
University of Minnesota, St. Paul  
July 6, 2017

### Summary:

Day two of the Kernza/IWG meeting brought the researchers involved with day one together with a larger group of stakeholders interested in the development of Kernza. With an emphasis on value chains and commercialization, attendance (100+) included representatives of end users from small local businesses to multi-national corporations, farmers, funders, NGOs, state agencies, policy makers and others. This wide representation, coupled with attendance interest that exceeded space available, is a strong indicator of the enthusiasm around the potential for this new perennial grain crop. Challenges were discussed, including those related to working with a crop actively under development as well as challenges related to building supply chains for such a new crop. Opportunities to hear from those growing, processing and using Kernza perennial grain demonstrated that, despite the challenges, partners are eager to utilize what is a new and unique ingredient that fits the strong sustainability ethic with which early-adopters guide their businesses.

### Recap of Day 1: Research Highlights & Next Steps *See day 1 summary for more detail.*

**Lee DeHaan** (The Land Institute) provided a spirited discussion of research on Kernza® breeding and genomics, using the metaphor of our societal transition from sea to air transportation. While the first airplane flight in 1903 lasted 12 seconds and reached only 120 feet, air travel came to transform transportation as we know it. Though we are collectively at the inception of perennial grain crops, they hold the potential to transform agriculture. The key breeding and genomics research focus remains yield, but research continues regarding numerous additional traits, with varying priorities given different geographies, such as heat/drought tolerance (KS) and lodging (MN).

**Jake Jungers** (UMN) provided a summary of current environmental benefits research, mostly in early stages, focusing on water quality and carbon sequestration. And agronomic research, with high priority agronomic research questions focused on organic weed management during establishment year, harvest timing and techniques, and agronomic methods for sustained grain yields.

**Tonya Schoenfuss** (UMN) provided an update on current food science research including composition of IWG compared to wheat, importance of protein and starch for product functionality, storage stability and ongoing work including strategies to improve functionality such as dough conditioners and continuing to look at refinement, as well as mentioning the strategy of blending IWG and nutritional story of the grain.

### **Building the Value Chain**

**Constance Carlson** (Regional Sustainable Development Partnerships, UMN) moderated a session with panelists representing steps throughout Kernza value chains. Northern MN farmer **Jade Estling** discussed early successes, such as good stand establishment; and challenges, such as weed pressure in year one. As a farmer, Jade said he is interested in what it means to have a good quality crop that doesn't have the runoff issues of other commodity crops, and is open to growing organically because the market is there. Recognizing that there are constraints to growing in organic systems, Jade sees opportunity for conventional Kernza as well. Grower and processor **Richard Magnusson**, Roseau MN, has been growing, cleaning and dehulling grain for Patagonia Provisions. Richard mentioned the importance of adjusting combine settings appropriately to maximize grain coming off the field, that he has achieved the best dehulling so far with the 2016 harvest, and that in the third year of cleaning ergot was observed, with some samples coming back with 2% ergot- requiring additional processing with a color separator. **Lizzy M.G. Haucke**, Plovgh, covered supply, demand, and market development for Kernza. Lizzy discussed Plovgh's role in providing tracking, operations and logistics support to move Kernza from farm to market, and suggested the most appropriate scale for Kernza adoption at this point as mid-scale. Lizzy reported a limited but sufficient supply of both seed and grain, with a 2017 goal of building backup quantities of both. Plovgh is finalizing new growers for plantings in the 2017-2018 season (expecting each participating farm will plant ~20-40 acres) and anticipating increased future demand from existing buyers as well as significant additional demand from large and mid-scale buyers in the coming years. **Richard Warner**, Green Lands Blue Waters, reported on a new regional opportunity with incredible momentum from multiple stakeholders: targeted Kernza plantings for Source Water Protection. Many rural communities rely on groundwater as their drinking water source and many of these sources are at risk from agricultural pollutants. Much of the acreage above wellhead catchment areas is covered in annual row crops. Nitrate contamination of groundwater is costing states millions. Current solutions include taking land out of production. Targeted Kernza plantings above wellhead areas could provide a win-win-win; keeping land in production (farmers as a solution), bringing drinking water quality back to safe levels, and saving states money. Finally, bringing the supply chain full circle from farmer to end user, **Birgit Cameron**, Senior Director of Patagonia Provisions, presented on restorative agriculture as a corporate strategy. Patagonia's mission is to "Build the best product, cause no unnecessary harm, use business to inspire and implement solutions to the environmental crisis". Birgit discussed the road to Long Root Ale; planting Kernza at UMN in 2013, beginning GRAS status exploration in 2014, increasing acreage in 2014 and 2015 (transitional to organic), identifying HUB as a partner and working on ideation for beer, and finalizing and launching Long Root Ale in Whole Foods in 2016. Patagonia Provisions remains committed to finding solutions to repair the food systems that sustain us. Ongoing plans include launch of a second beer with HUB, further commitment to regenerative organic agriculture, and exploration of additional perennial crops.

## **Sustainability as a Market Driver: General Mills Story** (Katrina Heinze)

**Katrina Heinze**, Organic Ambassador for General Mills, discussed corporate sustainability initiatives at the company and current and future plans for utilizing and supporting Kernza.

Background: Today General Mills is #4 in natural and organic food. This began in the mid-90's with the launch of organic Gold Medal flour and acquisition of Cascadian Farm and Muir Glen brands. General Mills is committed to 1 billion in natural and organic sales by 2019.

Consumer Trends: Sales of mainstream foods remain flat, but sales of organic foods have grown close to 10% annually for the last decade and projections suggest this will continue. There is increasing customer interest in where and how food is grown, and the impact of how it's grown. The number of people who prioritize sustainability purchasing is up significantly since 2007; still, the number of consumers who prioritize sustainability is not the majority.

General Mills Sustainability Initiatives: In addition to consumer trends, General Mills sees working on sustainability issues as imperative and the right thing to do given a global context of declining resources and increased demand for resources, especially within agriculture. General Mills currently has three focus areas; healthy watersheds, stable climate, and strong ecosystems. On climate change, since 2005 General Mills has reduced absolute GHG emissions by 13% within direct operations, and has publically stated an ambitious goal to reduce emissions across the entire value chain by 28% by 2025. Soil health is a foundational area of interest. General Mills works with partnerships that can influence how farmers grow crops. For example, last fall The Nature Conservancy, with funding from General Mills, unveiled ReThink Soil: A Roadmap to Soil Health. It's in this context that Forever Green's work on perennial crops is intriguing to the company.

Commitment to Kernza:

- purchase an initial amount of the perennial grain to enable farmers to plant on commercial-scale fields
- plant a test plot on Cascadian Farm home farm (Eastern Skagit County, WA)
- summer 2018 cereal or snack product
- continued partnership and commercialization

## **Early commercialization experience: What are we learning? What do customers think?**

**Aaron Reser**, Green Lands Blue Waters, facilitated a conversation with early-adopters using Kernza perennial grain. Panelists included those local to the Twin Cities market, such as **Dan Schmit** with Birchwood Café and **Jeff Casper** from Dumpling & Strand noodles. Local miller **Steve Horton** with Baker's Field Flour & Bread was unable to attend but we heard about his stone milling operation in Minneapolis. **Laura Hansen**, General Mills, discussed her team's experience with Kernza R&D. **James Farag**, Patagonia Provisions, and **Christian Ettinger**, Hopworks Urban Brewery (HUB) discussed the partnership between their two businesses that brought the first commercial Kernza product to market, Long Root Ale.

All five panelists made clear that their interest in Kernza stems from a deep commitment to making business decisions based on sustainability. Equally important- Kernza has performed well as an ingredient and panelists genuinely enjoy experimenting with, and offering their customers access to, such a novel ingredient. Panelists generally found that when customers asked questions about Kernza, they were intrigued and inspired by the potential of the crop. Initial challenges in using Kernza include limited and inconsistent access to the grain, inconsistency between batches of Kernza (small businesses are more able to be nimble with this), and uncertainty regarding Kernza pricing in the future. All of the five panelists remain committed to and enthusiastic about continuing to use Kernza perennial grain as well as

embracing R&D with new perennial crops as they become available.

**Thank you for joining us in St. Paul for the 2017 Kernza Meeting!**