

# Supply, Demand, and Market Development for Kernza™

*presented by*





1. Plovgh background and context
2. Our role in Kernza™
3. Current process and quality monitoring
4. Current grower landscape
5. Current buyer landscape
6. Where we are going from here
7. Questions

Plovgh is an agricultural procurement partner and specialty supply chain coordinator for foodmakers.

- Standard and specialty crops/varieties
- Supplier network development and management
- Bridge buyer demand and needs with production choices at the farm and processor level
- Small orders to truckload sized orders allows us to facilitate early stage of new ingredients



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## *Kernza™ part of larger context*

- **Drive among farmers toward expanding the rotation**
  - More crop diversity on farms
  - More willingness to introduce niche crops, especially in environment of low commodity prices
  - Environmental and economic benefits of diversified production
  - Demand from buyers looking to source non-standard ingredients
- **Demand among buyers for highly customized sourcing**
  - Unique varieties desirable for ingredients
  - Source identity for quality assurance and unique marketing story
  - Custom processing needs of buyer
  - Regionally based sourcing programs, and efforts to bring crops back to US farms (example: oats in Iowa)



**One-to-one contracts::High Risk // Quick Adoption**

- Price determined by contract agreement and yield
- Grain quality risk
- Food safety parameters



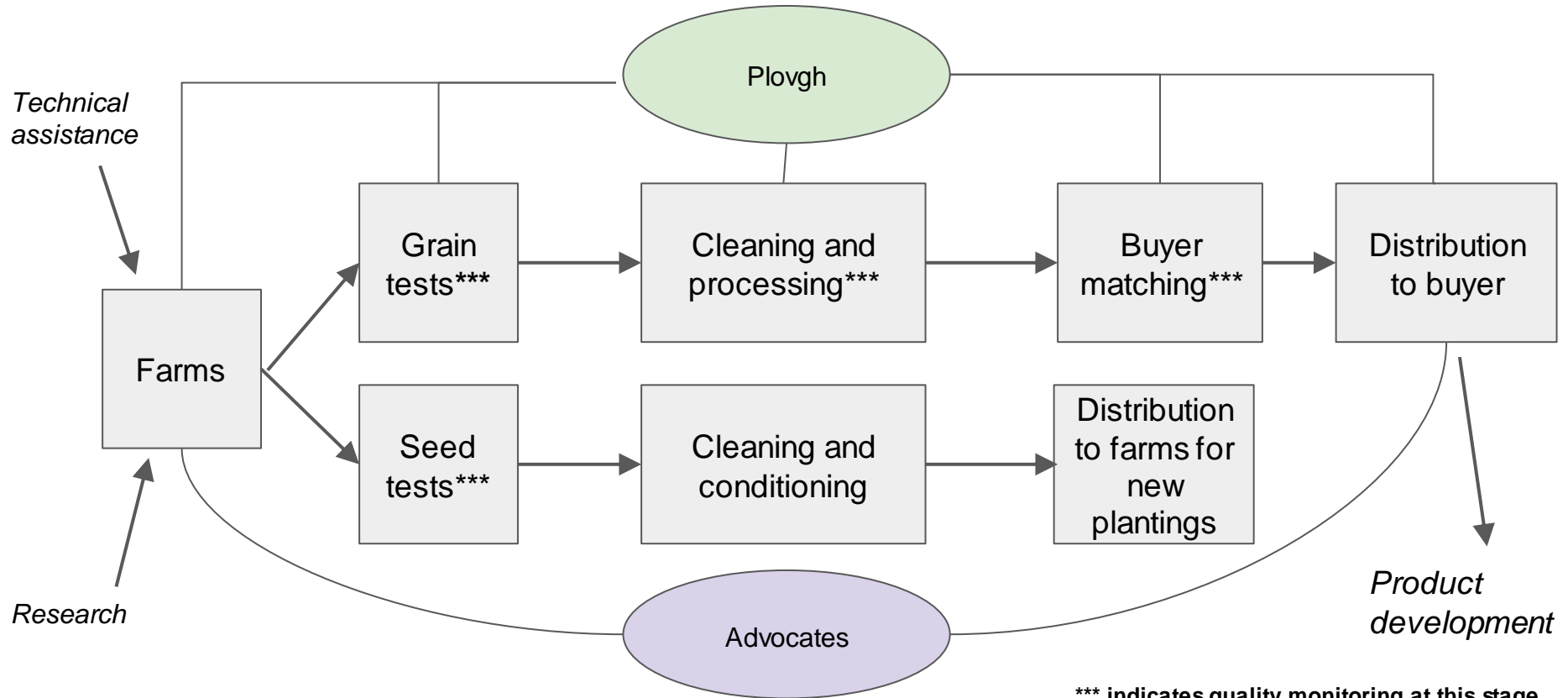
**Many-to-many networks::Low Risk // Slow Adoption**

- Grading allows buyers to be matched with Kernza™ best suited to their needs
- Farms benefit from a deeper buyer pool
- Price determined more directly by supply and demand

Risk management through geographic diversity of plantings for early-stage crop, multi-farm participation in markets, quality assurance protocols matched with buyer specifications.



# What does that look like?





	Scale	Processing	Buyers
Commodity	Large	Not relevant for K.	CPGs
Specialty	Intermediate	Intake, grading, cleaning, dehulling, bagging, milling	Mid-scale brands
Artisan	Small	Milling	Small business

Intermediate/specialty scale processing can accommodate needs of CPGs and small businesses working with Kernza.

Plovgh provides the operations and logistics support to get Kernza™ from farm to market.

- Managing relationships with current growers, recruiting new growers to the program, and identifying priority participants.
- Overseeing licensing and identity preserved program.
- Tracking soil and grain test results to build dataset on Kernza™ characteristics.
- Managing logistics off the farm, sampling, and intake of farmgate grain.
- Matching lots of grain with appropriate market outlets, both food- and feed-grade.
- Coordinating harvest, packing, cleaning, processing, and delivery of Kernza™.
- Gauging farms' yields and buyers' volume projections to grow supply and demand in lockstep.





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# Kernza™ Acreage

- 20 farms
- Approximately 210 acres planted but less than 100 in commercial production
- Currently demand exceeds supply
- Both organic and conventional product in the market

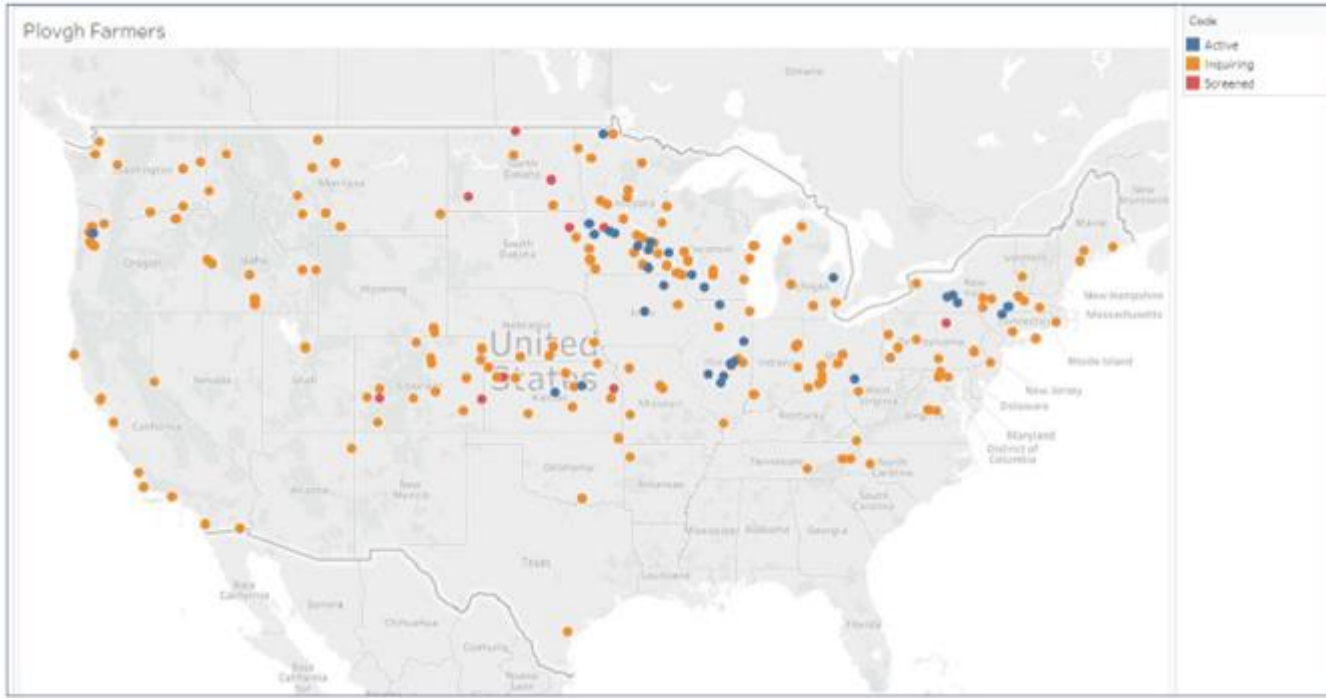


**Blue = Growers**  
**Red = Buyers**



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## 2017 Producer Prospects (US)



- 30 farms with active plantings as of 2017.
- Over 200 farms in process.
- Not all suited for growing Kernza™.
- New opportunity?



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## *Current Seed and Grain Levels*

- In 2017, aim to build backup quantities of seed and grain.
- Acres planted will depend on buyer commitments.
- There is limited but sufficient supply of both seed and grain.
- There is a process for activating qualified farms and buyers.
- If you don't see products on your shelves yet, don't fret!

**SAMPLE -> PROTOTYPE -> ORDER -> CONTRACT**

# *WHERE ARE WE HEADED FROM HERE?*

- Supporting harvest, delivery, grading, processing of 2017 crop.
- Finalizing new growers for planting in the 2017-2018 seasons.
- Anticipating increased demand from existing buyers and the addition of significant demand from a number of large- and mid-scale buyers in the coming years.
- Seeking conventional, transitional, and/or organic acres.
- Expecting each participating farm will plant 20-40 acres.
- Expanding geographic region of plantings.
- See regional corridors emerging in West Coast, East Coast, and Midwest foodsheds at next stage with processing facilities engaging, and buyers setting clear requirements for suppliers.



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