

Welcome to the Healthy Local Food Artisan Grain Exhibition

As consumers, we are becoming more interested in the quality and sourcing of our food and we are expanding our horizons! A few years ago, most of us equated “local food” with fresh produce: tomatoes, green beans, apples, pumpkins, kale, etc. Some of us may also have sought out cheeses, meats, honey, and eggs. But only recently has there been an awakening to grains as a “local food,” and one that is the basis of many foods we eat: breads, pastas, breakfast cereals, and beer, just to name a few.

This year’s exhibit focuses on a revolution that is happening with local grains—small grains



in particular. Both heritage grains and new grain varieties—bred for flavor and health attributes—offer exciting opportunities for farmers and end users alike. They have the potential to transform our agricultural landscape in ways that benefit farmers, the environment, and rural communities, while providing amazing, healthy ingredients that bakers and makers are transforming into delicious foods and beverages.

Explore these kiosks to learn about some of the grains that can be part of a regenerative agricultural system and learn what is happening — from field to table — to build demand for these small grains.

Brought to you by



Renewing the Countryside
Supporting and accelerating sustainable solutions —generated in partnership with rural entrepreneurs and communities.



The Artisan Grain Collaborative
Working together to promote a regenerative grain system that builds healthy soil, healthy people, and healthy communities.

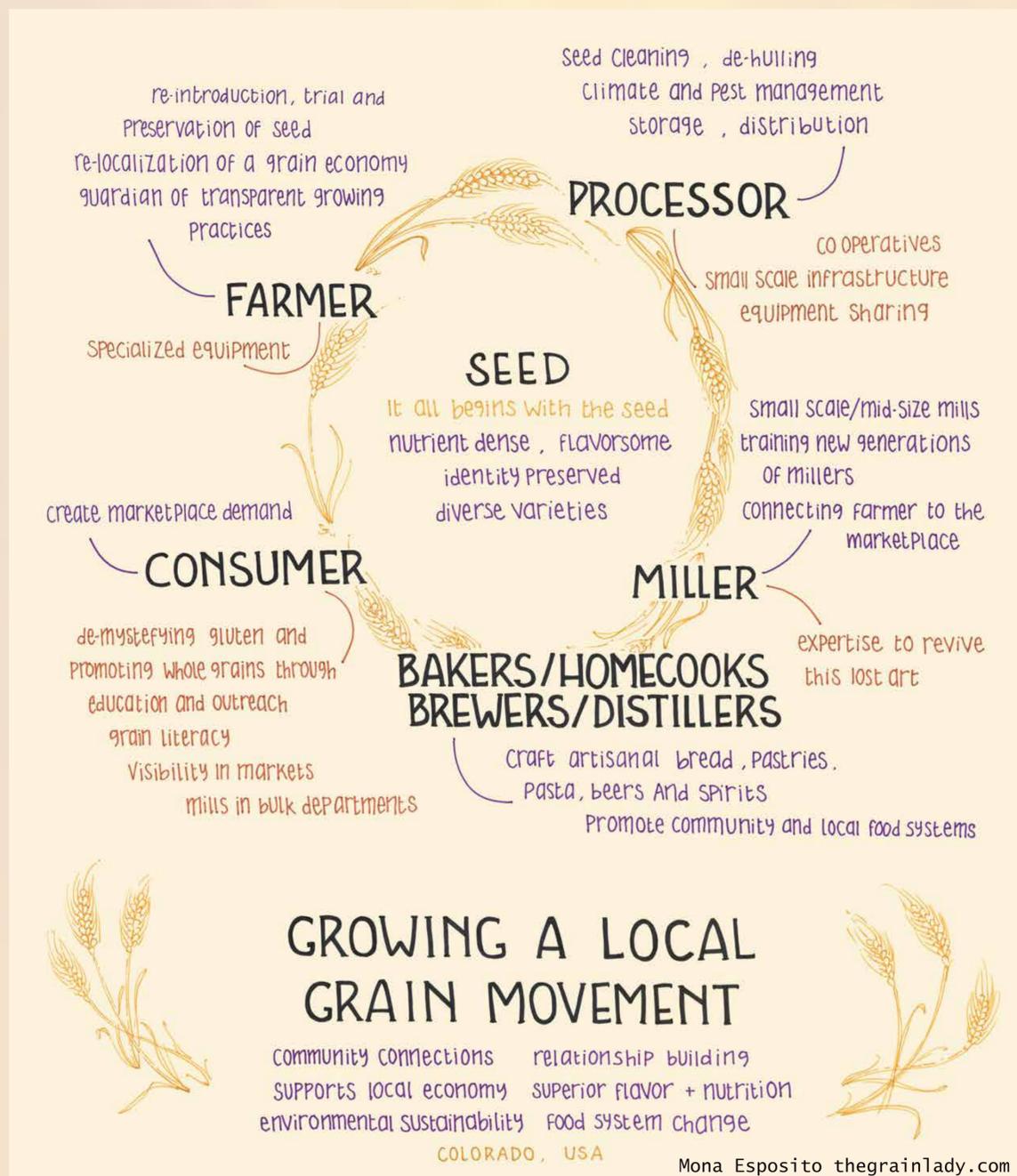
And our Partners and Supporters



Artisan Grains

From Seed to You!

As eaters, we often don't think about the complex systems behind the food we eat. For products made with artisan grains, there are all sorts of people, processes, and equipment involved. The following infographic is helpful in understanding the interplay between a number of the actors.



A Couple of Terms

Rotations: In the past, farmers grew many different crops, rotating them between different fields each year, which provided benefits for soil health and pest management. More recently, as federal policy has favored a few crops rather than many, most crop farms in the Upper Midwest have simplified their rotations. Farms will plant corn, soybeans, corn, soybeans, and so on. And when corn prices were at their height, there was no rotation, just corn on corn on corn. While some farmers are interested in adding other crops to their rotation, they only can afford to do so if they have markets (i.e. buyers) for those crops.

Cover Crops: A cover crop is a crop that is planted to "cover" the soil when it would otherwise be bare. Cover crops can enhance soil quality and fertility, prevent erosion and runoff, control weeds and pests, and increase biodiversity. Cover crops are often planted after summer crops have been harvested. A number of the small grains featured in this exhibit are used as cover crops, including oats, rye, and winter barley.

What is

Regenerative Agriculture

Our current agricultural system is very productive. It is a testament to how good management, science, and technology can make a radical difference in how much food, fiber, and energy crops we can produce. But farmers and scientists alike have come to realize that focusing solely on increasing production—whether it is bushels of corn or pounds of cucumbers per acre—is not a sustainable system.

Crops are grown within a larger system, and that system, if not managed thoughtfully, can become depleted and unproductive. To compensate, we often turn to short-term fixes, like adding more fertilizer or using more pesticides. These fixes, in certain conditions, can cause unintended harm to our lakes, rivers and groundwater, and to pollinators and wildlife.

Regenerative agriculture is a term that is gaining popularity. It isn't a specific type of farming but rather an approach that works in step with nature and takes into account the complex interconnectedness of agriculture with the broader ecosystem. It uses science, technology, and good management practices to develop productive agricultural systems, but considers not only crop productivity, but things like soil health, biodiversity, carbon sequestration, water management, and resiliency. Rather than depleting the land, this approach aims to regenerate it.



The Artisan Grain

COLLABORATIVE

The Artisan Grain Collaborative (AGC) was founded in 2016 when a group of bakers, chefs, millers, distributors, agricultural researchers, market developers, school nutrition experts, and nonprofits came together to put grain on the map as an important local food—and one that could make transformative change in the agricultural landscape of the Upper Midwest. They believed that by collaborating, they could build markets for the crops farmers need to grow to develop regenerative agriculture systems, while also identifying those grains that stand out in flavor and quality for consumers.

Local artisan mills, bakers, brewers, and home bakers understand the value of grains like rye, barley and heritage wheats and want to incorporate them into their products. But often they're not sure how to use them. How do

they bake with hullless oats? Can they make brownies with rye? And if they know how to use them, where can they get them?

That is where AGC works to “connect the dots” bringing the robust flavors and unique characteristics of regenerative grains from farms to tables. Through hands-on learning and community building, they showcase the Upper Midwest as a leader in regenerative agriculture, and support the thriving, innovative food culture its residents value.

To date, AGC has over 40 members in six states who grow grain, mill flour, develop new

grain varieties, educate home cooks, train culinary professionals, brew beer, and distill spirits. Minnesota members include Renewing the Countryside, Beth Dooley's Kitchen, Ben Penner Farms, and Sprowt Labs.



AGC's work is made possible through the generous support of Food:Land:Opportunity, an initiative of the Searle Funds at the Chicago Community Trust; the USDA Local Food Promotion Program; the Lumpkin Family Foundation; the McKnight Foundation; and the commitment of its members.

Visit www.graincollaborative.com, @graincollab on Facebook, and @artisangraincollab on Instagram to learn more about AGC and get involved.

Hard Red Spring Wheat

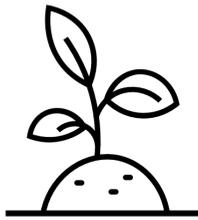
Great source
of protein

Reddish-brown
grain and shaped
like a bullet

Used in foods as a
whole grain or in
whole wheat flour

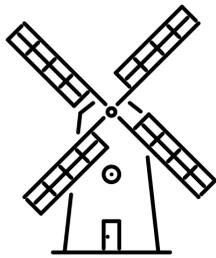


Full-bodied wheat flavor



Farmed and Harvested

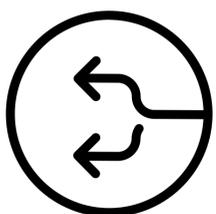
- Planted in the spring and harvested in the fall
- When introduced into a crop rotation, can help to keep soil healthy and reduce erosion
- In higher demand due to growing popularity of artisan bread, thus increased opportunities for farmers



Milled

- Once harvested, can be milled into whole grain flour
- Small mills, once abundant across the state, had mostly disappeared. But growing interest in local foods has led to several new mills opening in recent years

Local Example: Ben Penner Farms works closely with Baker's Field Flour & Bread to turn his organic hard red spring wheat and Turkey Red winter wheat into organic whole grain flour



Uses

- Flour used to make artisan breads, croissants, pizza crusts, rolls
- Wheat berries used in salads, soups, grain bowls

Ben Penner Farms

Raised on a farm in Kansas, Ben Penner and his family moved to Minnesota in 2008 and the following year, he started his own farm. On 73 acres, split over three locations, he raises hard red spring wheat, Turkey Red winter wheat, alfalfa, food-grade cover crops, lentils, and organic soybeans.

Certified Organic

Ben chose to farm organically because he liked the values it encompasses, including minimizing soil loss and improving soil fertility. He also saw a market opportunity for organic artisan grains. So in addition to growing small grains, Ben has them milled into flour by Baker's Field Flour & Bread.



Keeping it Local

Ben sells his flour in bulk to bakeries and in packages sold at food co-ops and other stores. He works to maximize flavor, saying that grains should be appreciated for their specific origin and characteristics similar to how we appreciate wines, coffees and chocolates.

Baker's Field

Baker's Field is a Minneapolis-based mill and bakery dedicated to returning stone-milling and naturally leavened breads to the Twin Cities. Baker's Field turns local, small grains into whole grain artisan breads, which are sold at stores across the Twin Cities.

The Baker's Field team believes that the key to great bread is great flour. And what makes great flour? You've got it, great grains. By creating a market for small grains, Baker's Field affords local farmers opportunities to experiment with grain varieties and provides Minnesotans with delicious new bread flavors.



The good bread revival has begun—will you join?

Oats

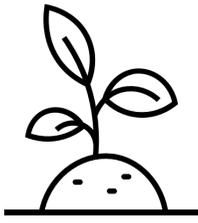
Heart Healthy



..... Packed full of vitamins, minerals, soluble fiber, and antioxidants

Lack gluten, making them a healthy option for gluten-free diets

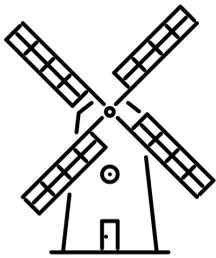
..... Highest protein content out of all common grains



Farmed and Harvested

- Prefer cool weather
- Often grown during late summer or fall as a cover crop
- Suppress weeds, improve soil quality, and can reduce erosion

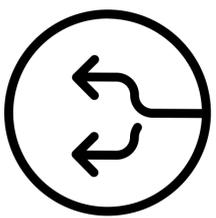
Local Example: Whole Grain Milling, owned by the Hilgendorf family, grows certified organic oats in Welcome, MN



Processed

- Before eaten, need to be purified and preserved, which happens in the milling process
- Start off as whole, unbroken "groats"
- Commonly processed into steel-cut, rolled, and instant oats, or into flour

Local Example: Whole Grain Milling processes oats into groats, rolled oats, and oat flour



Uses

- Oatmeal, muesli, muffins, cookies, bread, cakes, thickener for infant food

Local Example: Seven Sundays uses oats in their protein-packed whole food breakfast muesli

Seven Sundays

Hannah and Brady Barnstable discovered muesli while trekking in New Zealand on their honeymoon. When they returned home, they missed this breakfast tradition made of oats, fruits, nuts and seeds. The few versions available in stores didn't compare to what they had discovered in New Zealand, so Hannah decided to re-create it. What started as a personal quest to have great muesli at home has now turned into Seven Sundays: a successful and growing business.

The core of their muesli recipe, organically-raised oats are high in protein and gluten-free. Additionally, they build soil health, reduce erosion, and help suppress weeds. By providing a market for organic oats, Seven Sundays is helping drive change at

the landscape level as farmers are willing to plant crops they can sell.

Hannah and Brady also aim to drive change in people's morning routine by getting them hooked on this simple, whole food breakfast.



Whole Grain Milling



Doug and Lin Hildgendorf have farmed in Welcome, MN most of their lives. The farm, where they raise oats, corn, rye, and other crops, became certified organic in 1989. A year later, the Hildgendorfs began milling their crops so they could capture both the nutrition and quality of their whole grains in a form that was interesting to buyers. They began making products like rolled oats, pancake mix, and multi-grain cereals. Their oats are processed without heat and are often rolled the day before delivery to local food co-ops and other natural food stores.

Whole Grain Milling Co. is also known for their yellow and blue tortilla chips, made with high-lysine corn (which is higher in protein than regular corn). The chips are made in a plant they built in 2015, six miles from their farm. Sons Jeff and Ross work side-by-side with their parents, making this a truly multi-generational family business.

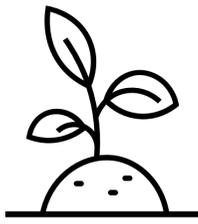
Turkey Red Heritage Wheat

Excellent flavor
and baking
qualities



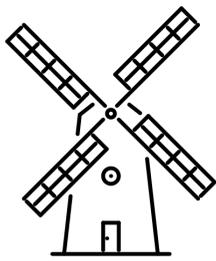
Has small
light-colored
berries

Brought to
the US by
Mennonite
immigrants, from
what is now the
Ukraine, who
first planted
it in Kansas



Farmed and Harvested

- A hard winter wheat, it is planted in the fall for harvest the following summer
- Grows taller than modern wheat varieties, shading out weeds and reducing the need for herbicides
- Doesn't require fertilizers
- Large root systems result in a high tolerance for poor soil



Milled into Flour

- Unique, gluten protein structure that is similar to wheat our ancestors ate
- Locally and freshly milled flour equals higher quality bread
- Some people with gluten sensitivities find they can eat products made with Turkey Red wheat
- Local Example: Sunrise Flour Mill sources only certified organic and Non-GMO heritage varieties for their products

Sunrise Flour Mill

Darold and Marty Glanville had eaten delicious breads on their European travels. When he retired from his corporate job, Darold set out to master baking the perfect loaf of whole wheat bread. But when extensive experimentation with store bought flour didn't return the results he wanted, Darold decided to mill his own flour. This made a huge difference—and led to the start of Sunrise Flour Mill.

The Glanvilles began stone-milling whole grains for their own baking and to sell at the Mill City Farmers' Market. Around that time, Darold's health deteriorated, and he determined he was gluten intolerant. Not wanting to give up his home-baked bread, Darold began researching his options. He learned that some gluten sensitive people could eat products made with heritage wheat varieties, and he decided to give them a try. Using Turkey Red and Red Fife heritage grains, he made bread that was not only delicious, but also didn't make him sick.

Today, Sunrise Flour Mill's mission is to source the best organic heritage grains they can find and provide the healthiest, tastiest products possible.

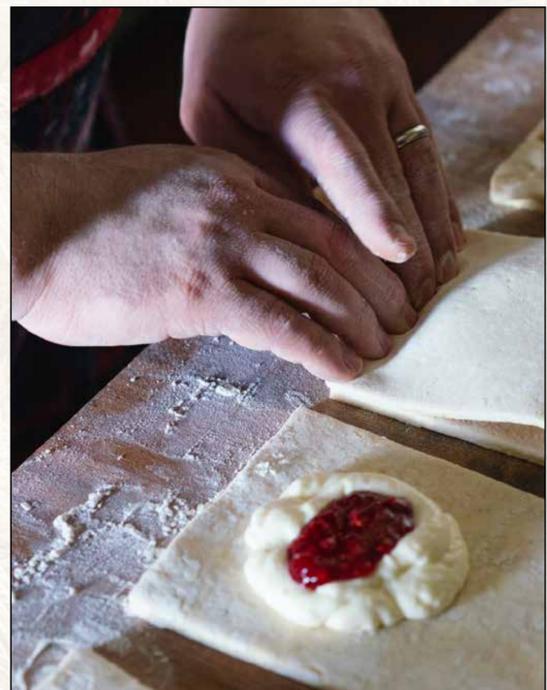
Sunrise Flour Mill hosts open-mill visits, where you can tour the facility and learn about baking with heritage wheat flour.



The Bartmann Group

A true force in the Minneapolis restaurant scene, Kim Bartmann experienced a reawakening after trying bread made from heritage wheat. Soon afterward, The Bartmann Group committed to only using locally-milled flour made from heritage grains in all of their restaurants, which include: Barbette, Bookclub, Bread & Pickle, Gigi's, Pat's Tap, Red Stag Supperclub, The Bird, Tiny Diner and Trapeze.

Kim has said that while the ecological impact of heritage grains was critical to the decision, it was the flavor that really sold them. They incorporate heritage grains into everything that uses flour—from bread and pasta, to fish fry batter and cakes.



Barley

Known for its nutty flavor
and consistency similar to
chewy pasta



Health benefits
can include
lowering blood
sugar, blood
pressure, and
cholesterol

Contain important
vitamins, minerals,
protein, and
antioxidants



Farmed and Harvested

- As a cover crop, breaks crop disease cycles, add nutrients to the soil, and suppress weeds
- Can be planted in the fall helping to limit erosion and enhance soil health

Local Example: Prairie Point Farm, based in Browns Valley, provides a range of organic and natural crops. In partnership with Able Seedhouse & Brewery, they are an active part of Minnesota's local barley supply chain.



Increase in Local Demand

- Most common use for humans is in the production of beer
- Partnerships are growing between local brewers, malters, and small grains farmers

Local Example: Able Seedhouse & Brewery sources all of their small grain ingredients from local farmers



How Beer is Made

- Grain is malted (germinated) by soaking in water and then dried with hot air
- Once dried, grain is placed into hot water, which releases sugars present in the malt
- Next, the mixture is boiled with hops (the flowers of a hop plant) to add bitterness and flavoring
- After cooling, yeast is added to ferment the sugars
- Once the fermentation process is complete, some sugar is added for carbonation prior to bottling

Able Seedhouse + Brewery

Located in NE Minneapolis, Able Seedhouse & Brewery offers craft beers and malts its own grains. The idea for Able came from founder Casey Holley, who was inspired by the connection he observed between agriculture and the community when he lived in California. While there it was grapes and wine, he wanted to do the same for small grains and beer in Minnesota. He teamed up with three others and created the company.

What sets Able apart from other breweries is that they not only make their own craft beer, but also malt locally-sourced small grains using their in-house malting equipment. Because of this, they add to the small grain supply chain by working with Minnesota and Wisconsin farmers to buy barley and other grains for malting.

What they malt depends on what types

of small grains are available, and so Able is able to create truly seasonal offerings. For example, Elder Wheat Ale made with house-malted hard red wheat from Peterson Farms in Dawson, MN is available this year at the Minnesota State Fair's Ball Park Cafe. The popularity of these beers and this idea of small grain-based beer is spreading, so much so that Able is currently selling in over 100 locations.

Peterson Farms



Luke Peterson developed a deep appreciation for the ecosystem during his upbringing near Laq qui Parle State Park and from the prairie restoration work he did with the MN Department of Natural Resources. On his 80-acres, originally settled by his great-great-grandfather, he is making a complete transition to organic production. The process involves planning for crop rotation; adjusting tillage, weed control, and fertilization practices; and more. For Luke, organic certification is just a first step towards regenerative agriculture, and growing small grains fits into that system. Forefront is a variety of hard spring wheat that he grows and sells to local flour mills and breweries.

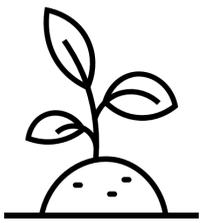
Rye

Has a deep, earthy flavor and is a good source of magnesium, fiber, and antioxidants



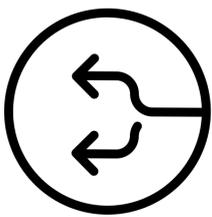
Health benefits include lowering blood sugar, cholesterol, and body weight

Contains less gluten content than wheat



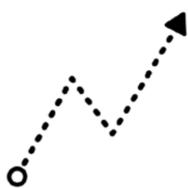
Farmed and Harvested

- A small grain that is often grown as a winter cover crop that can reduce erosion by keeping fields covered
- Helps prevent the loss of moisture and nutrients in soil
- Winter rye is the most winter hardy of all cereals



Uses

- Rye can be milled into flour and use to bake breads, crackers, cookies, and many other things
- Rye berries (the whole rye kernels) can be used to make grain salads, risotto, or cooked like rice
- For generations, rye has been used in a variety of whiskey and vodka products



Increase in Local Demand

- Rapidly increasing demand by local distillers is bringing rye into the mainstream and providing opportunities for small grain farmers
- The Artisan Grain Collaborative is educating professional and home bakers on the many options for using rye

Loon Liquors

Loon Liquors started in 2011 when friends Simeon Rossi and Mark Schiller shared some of Simeon's homemade coffee liqueur together. Mark liked the liqueur so much he asked Simeon if he was interested in making a business out of it! After developing a business plan and securing financing, they were granted federal permission to make spirits in southern Minnesota in 2013, the only two people to do so in over 100 years.

Loon Liquors uses only organic, locally-sourced ingredients and grains (primarily barley, wheat, and rye) for their products like Loonshine Whiskey and Metropoligin Gin. By doing so, they get high quality ingredients while also helping to foster regenerative agriculture and contributing to the growth of a sustainable, local small grains industry.

In their laid back Cocktail Room in Northfield, they serve both craft cocktails

and non-alcoholic housemade sodas along with a variety of snacks featuring products from local farms and food businesses. While they started small, by 2018 they had quadrupled their production capacity and won a number of awards. Someday they hope to have a "field to bottle" organic farmstead distillery where they grow everything they need and customers can learn about the process, from growing small grains to creating spirits.



B+T Farms



Bryan and Tammy Lips started B&T Farms in 2004, when they purchased 400 acres, near Faribault, from Bryan's parents. Fifteen years later, 350 of those acres are certified organic. On 80 of those acres, they grow organic wheat and barley for Loon Liquors. They have a strong relationship with Mark and Simeon—who recently helped them combine their crops—and also accept the distillery's spent grain to use for livestock feed. Bryan says crop rotation is a huge part of their success and is quick to give Tammy a lot of credit as well, saying, "She does it all!"

Kernza®

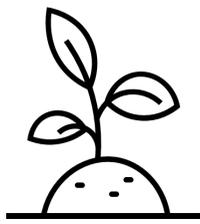
The New Perennial Grain!

Slightly nutty flavor with a hint of molasses, making it great for salads, waffles, and pancakes



Domesticated Intermediate Wheatgrass variety development led by plant breeders Lee DeHaan at The Land Institute and James Anderson at the University of Minnesota

Mahogany in color and similar in size to rice



Farmed and Harvested

- A perennial grain variety that can live for 2+ years with an extensive root system that helps to prevent runoff and capture carbon
- The University of Minnesota released a new Intermediate Wheatgrass variety in 2019 named MN-Clearwater, which means more seed will become available for farmers to plant.



Developing Uses

- It's most frequently blended with annual wheat flour when used in bread, but can be used without blending for muffins, pancakes, etc. or served as a pilaf like rice
- Sustainably-minded companies are looking to introduce products made with Kernza® because of the ecological benefits it provides
- Brewers are also using Kernza®: Patagonia Provisions made the first retail product from the grain—Long Root Ale. Bang Brewing in St. Paul makes a Farmhouse Ale with Kernza®

Local example: You can try Kernza® right here at home at Birchwood Cafe in Minneapolis!



A Future for Kernza®

- Given this small grain's young age, farmers and researchers are still figuring out how to grow Kernza® at a large scale. The ultimate goal is to develop a variety with yields similar to annual wheat that will be economical for farmers. Hopefully, as the Kernza® supply chain increases, we may see it as a common staple on grocery shelves.

Forever Green Initiative's *Small Grains*

The Forever Green Initiative, led by the University of Minnesota, is developing new cropping systems, including small grains, that have the potential to boost farm profitability and provide environmental benefits.

Currently, our Midwest agricultural landscapes are dominated by corn and soybeans. While these crops can grow from seed to mature plant in a couple of months, their downside is that for the rest of the year the land is bare. Bare soil is a problem because topsoil can be blown or washed away, rain can cause runoff that carries nutrients into our waterways, and pollinator habitat is absent for critical parts of the year.

The Forever Green crops, which include winter annuals and perennials, solve this problem by providing continuous living cover throughout the year:

- Winter annuals are planted in the fall, after summer annuals have been harvested, and grow in the off season when fields would otherwise be bare. Examples include camelina, pennycress, winter barley, and cover crops
- Perennials grow year round. Examples include Kernza®, perennial flax, and perennial sunflowers

These systems are “works in progress.” Researchers are breeding new winter annual and perennial crops, working with farmers to test these crops in the field, and evaluating the economic and environmental benefits of these systems.

Beth Dooley's Kitchen



Beth Dooley is a James Beard Award winning author and a seeker of great ingredients. She learned about Kernza® from her friends at the Birchwood Cafe who were some of the first to get samples of the grain to experiment with in cooking and baking. Beth was intrigued, both for the culinary opportunities and because of the potential for perennial crops like Kernza® to regenerate our

land. Her interest led her to the University of Minnesota where she has dived into learning about all the Forever Green crops and is featuring them in a forthcoming cookbook, *The Perennial Kitchen: Field Guide with Recipes for a Delicious Future*.