

Transforming agriculture, perennially.



Developing perennial versions
of all major grain crops
including cereals, legumes,
and oilseeds.



Improving environmental,
economic, and social
sustainability.

Learn more

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Cover photo courtesy of Square Butte Farm



KERNZA® Perennial Grain



What's a perennial?

PERENNIALS

Perennial plants support ecological processes that are essential to life on Earth. Most of the planet's native ecosystems comprise diverse plant mixtures that grow for multiple years. Annual plants complete their life cycle in just one growing season and must be replanted.

REMAKING AGRICULTURE

Perennial grains are new hardware for agriculture that can transform how we farm by changing what we grow. These long-lived alternatives to major annual grains, including cereals, legumes, and oilseeds, will allow farmers to plant once and harvest a crop for many years without replanting.



JOIN US ON THE JOURNEY

The scale of grain agriculture on the landscape and in human diets is an opportunity to transform the global food system. The Land Institute aims to create an agriculture system that mimics natural systems to produce ample food and realize perennial agriculture at scale to benefit people and ecosystems.

Donate at landinstitute.org.

Why grains?

STAPLE FOODS

Over 70% of the food calories people eat come from grain crops, which occupy 60% to 80% of global croplands.

RESILLIENT FUTURES

Because perennial grains can live for three or more years and grow long roots that extend deep into the ground, they can build healthy soil and protect it from erosion, absorb and clean water, retain and efficiently use nutrients, foster biodiversity, withstand extreme weather events like rain and droughts, and remove carbon dioxide from the air.

What is Kernza?

KERNZA PERENNIAL GRAIN

Kernza is the grain harvested from improved intermediate wheatgrass developed by The Land Institute as a new cereal crop for human consumption. Improvements to this novel grain continue in collaboration with numerous research partners in the US and globally.

KERNZA PRODUCTS

Capitalizing on its unique flavor, food and beverage producers use Kernza perennial grain in whole grain, flour, and flaked forms to create products, including baked goods, cereal, crackers, mixes, beer, whisky, and more.

Kernza[®] Facts

PROTEIN

Kernza grain has a high protein (up to 20%) and gluten content. However, the low molecular weight gluten proteins are short and sticky, not the long and stretchy glutes used to make yeasted bread. Kernza contains gluten.

FLAVOR

People have described Kernza as having nutty and spicy notes with a distinct graham flavor.

CARBON

In a 100-acre field, three to four years of Kernza grain production with an additional one to two years of forage is estimated to result in the sequestration of 240 - 1,620 tons of carbon over this three to six-year timespan.

NURITION

Kernza is high in carotenoids, an important antioxidant, and has eight times the dietary fiber of whole wheat flour.