



Experimenter App Launched

February 2025

Our project team developed an app to support producers' soil health experimentation efforts on their own farms. We launched a closed beta of the app in December 2024, and onboarded 8 producers by February 2025.

About the app: Producers are continually experimenting with soil health practices, and our app will help them document those experiments in higher fidelity, with less hassle. Key features include nudging producers toward more structured and rigorous experimental design (e.g., replication, controls, understanding certainty and variance), establishing timelines and metrics for data collection, and defining experimental goals and success criteria. Our app keeps track of what data is due to be entered (or overdue), and producers receive timely reminders on their smartphone to input that data. They can snooze the prompt and be reminded again later. Depending on what data producers enter, the case studies will include information about experiment setup and variables, photographs of the experiment in-progress, qualitative data from free text and voice memos, a partial budget analysis, and changes in soil health markers over time.

Limited live demo of the app: [Click here](#)

App interface

(This just shows a tiny slice - cick the link for more)

Projects Producer's Pasture cropping in Kernza project **Copy Shareable Link**

Enter data

Log out

Observations

Drought chart Edit
December 11, 2022
U.S. Drought Monitor
Rush County, KS

2020
Burndown Plant w/ MAP
60# N

2021
Harvest Swath Plant CC
60# N
Graze

2022
Swath Plant CC

2023
100%

Lauren made this drought chart to visualize how the drought conditions lined up with the different operations

Root development - amazing! Edit
October 11, 2022

Really incredible root development so far on this kernza! From spring '21

Prepared fact sheet

FACT SHEET
Getting Diversity into Kernza using Pasture Cropping
Advice from FARMS producers

What is Kernza?
Kernza® perennial grain is harvested from domesticated forms of intermediate wheatgrass and is undergoing ongoing breeding and development by The Land Institute (Salina, KS).

What is Pasture Cropping?
Planting an annual crop or cover crop into an established perennial field, during the perennial's dormant season.

Region & Context
This Kernza field is in Rush County, central KS (24" precipitation). We are in the first D4 drought since 2012 and are at 50% normal precip for the last 15 months.

Why pasture crop into Kernza?
I'm becoming convinced that in our brittle environments, **perennials are possibly the only way to keep year-long living roots and covered soil.** None of my other perennial experiments are monocultures, so I decided to try **pasture cropping into the established Kernza**, in order to get diverse and high-quality forage for cattle to graze while they're trampling the Kernza straw (this also gets light on the crowns of the Kernza). I also want to get away from synthetic fertility, instead planting legumes to provide N.

Establishment and Results
Prior to the Kernza, this field had multiple years of grazed cover crops. I planted in late Aug 2020, blending 7:1 with MAP fertilizer to get it to flow through our air seeder. I applied 60#N in Oct. In summer 2021, 550# of grain was harvested (265# after cleaning), and 2.5T of hay. Mix A was pasture-cropped into the Kernza stubble, and 60#N was applied in Oct. The covers did not do well, except for a sprinkling of sorghum sudan. The cattle grazed in Nov, and **net enterprise return was \$439 per acre.** Spring '22 saw D2 drought, and the Kernza did not make grain. 0.9T of hay was swathed in July, Mix B was pasture-cropped into the stubble in Aug, and none emerged. There was not enough forage to graze again. Without insurance, net enterprise return was -\$14 per acre.

Mix A: \$28/ac. 6# Spring forage pea, 5# sorghum sudan, 4# cowpeas, 3# pearl millet, 2# each Sunn hemp, buckwheat, and flax, and 1# each collards, radish, sunflowers, and okra (to see what did well!)

Mix B: \$14/ac. 10# sorghum sudan, 3# sun hemp, 2# black oil sunflower.

U.S. Drought Monitor
Rush County, KS

2020
Burndown Plant w/ MAP
60# N

2021
Harvest Swath Plant CC
60# N
Graze

2022
Swath Plant CC

2023
0% 100%