SUSTAINABILITY REPORT 2024

GRAIN CRAFT

TABLE OF **CONTENTS**

ABOUT

Grain Craft **At a Glance** 2

PREFERRED VARIETY PROGRAM

Grain Craft PVP **Timeline** 3
Grain Craft PVP **Data** 5
Preferred Variety **Growers** 6

SUSTAINABLE OPTIMIZATION

Advancing **Wheat** 7

SOIL HEALTH

Soil **Testing** 8
Soil Testing **Data** 9
Nutrient Management **Practices** 10
Farmer Practices **Data** 11

WATER USE

Water Usage **Data** 12

ENERGY USE

Energy Usage **Data** 13

KEY HIGHLIGHTS

Sustainability **Review** 14

ABOUT

GRAIN CRAFT **AT A GLANCE**

As the largest independent flour miller in the nation, Grain Craft offers premium bulk and bagged flours for the baking, food service, tortilla, and pizza industries.

We proudly serve customers coast to coast with 15 milling locations, three offices and the Grain Craft Innovation & Quality (GCIQ) lab. In August 2024, we acquired organic flour leader, Central Milling. With over 100 years of history, we share the tradition of working with American farmers to grow and harvest the best varieties of wheat; while also promoting and advancing long-term sustainable farming practices.

"A lot of times there is an impression that stewardship of the land is an issue, but poor stewardship is not done with intent... Stewardship of the land is part of our job as farmers."

DARREN NELSON
NELSON BOWERS FARMS
FIFTH GENERATION WHEAT FARMERS

Many of our grower families have been caretakers of the land for over 100 years. It is more than a job; it is their passion and livelihood. Wheat is a tried-and-true product that has been cultivated for centuries, but the process is continually being evaluated by our growers to reduce environmental impacts, increase efficiency, and strengthen consistency.

Our summary includes three areas of environmental optimization that our growers are evaluating and prioritizing. These areas are **soil health**, **water use**, and **energy use**.

PREFERRED VARIETY PROGRAM

GRAIN CRAFT **PVP TIMELINE**

Our Preferred Variety Program includes varieties that have been thoroughly tested and selected based on key milling and baking characteristics.

"When agronomic characteristics are equal, wheat producers are willing to plant better quality varieties. Two factors contribute to the success of crops — yield and quality. Both must work in parallel for a truly successful crop. Therefore, our Preferred Variety Program evaluates both factors."

REUBEN MCLEAN
SR. DIRECTOR QUALITY & REGULATORY

EARLY 2000'S
HISTORICAL SUCCESS

Began working with wheat breeders to develop a preferred variety program in the PNW for top quality wheat.

2013
WHY KANSAS?

High yielding varieties were most widely grown in Kansas at this time, but quality concerns created the need for a preferred list that provides both yield and quality.

2014
CALL TO ACTION

Met with Kansas Wheat Commission to discuss need for enhanced wheat quality.

Grain Craft preferred variety list introduced.

2019
PROGRESS

Grain Craft "Preferred" SY Monument bumps Everest for most planted acreage in KS.

2020
IMPACT

20% of all Kansas wheat planted is Grain Craft preferred variety.

2023
PROGRESS

50% of Kansas Top 15 HRW Varieties planted are Grain Craft preferred variety.

Launched Regenerative Agriculture (RA) Pilot Program.

2024
PROGRESS

Top three HRW Varieties planted in Kansas are Grain Craft preferred variety.

RA Pilot Program doubles in participants.

GRAIN CRAFT **PVP TIMELINE** *(CONT.)*

In 2024, the southern plains preferred variety program included more than 69,000 acres planted and almost three million preferred variety bushels harvested.

EVOLUTION OF GRAIN CRAFT PREFERRED VARIETY PROGRAM

Throughout the years Grain Craft has prioritized wheat quality to improve the way in which we bring our customers the premium flour they've grown to expect. Beginning in Idaho in the early 2000's, year after year, we work behind the scenes to identify wheat varieties that result in excellent milling and baking qualities.

The Grain Craft Preferred Variety Program includes varieties that have been thoroughly tested and selected based on key milling and baking characteristics. Each of these varieties have shown successful yield and end-use performance, and are well adapted to thrive using sustainable agriculture practices.

In addition to the quality aspect of our Preferred Varieties, the program naturally lends itself to an Identity Preserved model in which we work directly with the growers to ensure traceability from the field to the mill.

These deep connections throughout our value chain allow us to directly support our growers and have meaningful grower engagement around stewardship and progressive agronomic practices.

While the Grain Craft Preferred Variety program was developed in the Pacific Northwest in the early 2000's, it wasn't until 2014 that the program began to take shape in the southern plains.

Through this work we were able to consistently utilize local Kansas, Idaho and Oklahoma preferred varieties and provide a better performing flour.

PREFERRED VARIETY PROGRAM

GRAIN CRAFT **PVP DATA**

QUALITY	WHEAT PROTEIN ANALYSIS	FLOUR WATER ABSORBTION	FLOUR STABILITY ANALYSIS
2024 PREFERRED VARIETY CROP HRW	14.0	59.0	16.0
2024 ORDINARY CROP HRW	*12.4*	*58.0*	*10.0*
2023 PREFERRED VARIETY CROP HRW	13.2	60.2	14.5
2023 ORDINARY CROP HRW	*12.8*	*58.8*	*12.6*

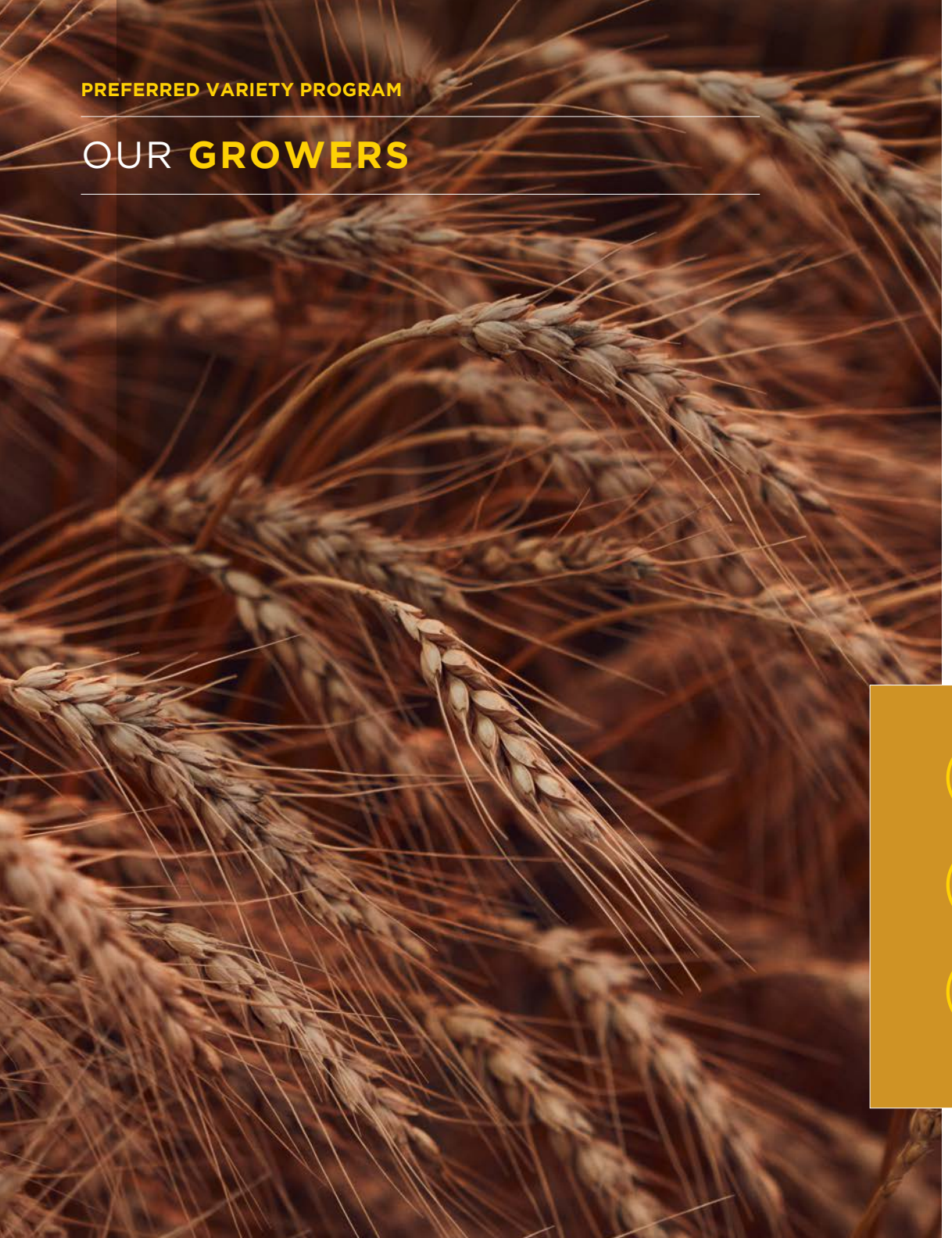
GRAIN CRAFT PVIP GROWERS ACHIEVED

GREATER YIELD

BETTER QUALITY

3% GREATER YIELD THAN THE 2024 KANSAS STATE AVERAGE

(32% IN 2023)



PREFERRED VARIETY PROGRAM

OUR **GROWERS**

"I feel there's more of an emotional connection for me, as a farmer of dropping off my wheat at a flour mill compared to a terminal elevator where it has about one or two more stops until it reaches the mill. It's significant to me to partner with Grain Craft, to take wheat from my farm that has good quality characteristics that they value, and to deliver that directly to a Grain Craft facility."

KNOPF FARMS
FIFTH GENERATION FARMER

GROWER DATA
This data collected represents a sample of Grain Craft growers who provided information on their sustainable argiculture practices.

69,247 TOTAL ACRES PLANTED 2023

AVERAGE YIELD: **44** BUSHELS PER ACRE

1/2 OF OUR MILLS UTILIZE DIRECT FROM FARM SHIPMENTS OF WHEAT

SUSTAINABLE OPTIMIZATION

ADVANCING **WHEAT**

Wheat is a tried-and-true product that has been cultivated for centuries, but the process is continually being evaluated and improved by our growers to reduce environmental impacts, increase efficiency, and deliver consistent quality.

"Preliminary results from the research indicate there is a strong correlation between proper fertility management of wheat by farmers and not only the quantity, but quality of the protein produced. The recent collaboration we have had with Grain Craft helped us reach that next level on making recommendations."

DR. ROMULO LOLLATO
WHEAT PRODUCTION EXTENSION SPECIALIST
KANSAS STATE UNIVERSITY

OUR CONTRIBUTION

Over the past five years, Grain Craft has contributed to the Kansas Wheat Commission Research Foundation (KWCRF) in support of research to improve wheat quality, yield and soil health through proper fertility management.

A study being conducted by Dr. Romulo Lollato, Wheat Production Extension Specialist at Kansas State University, is working to understand the ideal ratio of nitrogen and sulfur to optimize the soil and produce both a high yielding and high-quality wheat crop.

Grain Craft has specifically helped fund the soil optimization research that Lollato is leading, as well as performed key baking quality assessments, to uncover the relationship of nitrogen and sulfur application to yield and baking quality.

SOIL **TESTING**

Soil health is a foundational component in contributing to sustainable agriculture and optimizing natural resources.

HOW DO PREFERRED VARIETY PRODUCERS TEST THE SOIL?

- GRID SAMPLE: **51%**
- RANDOM 12″ CORE SAMPLE: **35%**
- RANDOM 24″ CORE SAMPLE: **6%**
- OTHER: **8%**

"Deepening the connection up and down the supply chain from growers to bakers has the potential to facilitate tremendous

ALAN KOENIG
GRAIN CRAFT
CHIEF SUPPLY CHAIN OFFICER

ELEMENTS OF SOIL

Soil is a thriving ecosystem which performs essential functions for a healthy crop.

Some of these functions include water regulation, erosion control, organism support, filtering pollutants, cycling nutrients, and providing a stable support for plants to grow.

When conducting soil tests, farmers are measuring the essential elements found in the soil. These elements, along with the pH and soil organic matter, can have a tremendous effect on the health of a crop.

MORE THAN **82%** OF FARMERS SURVEYED CONDUCT SOIL TESTS

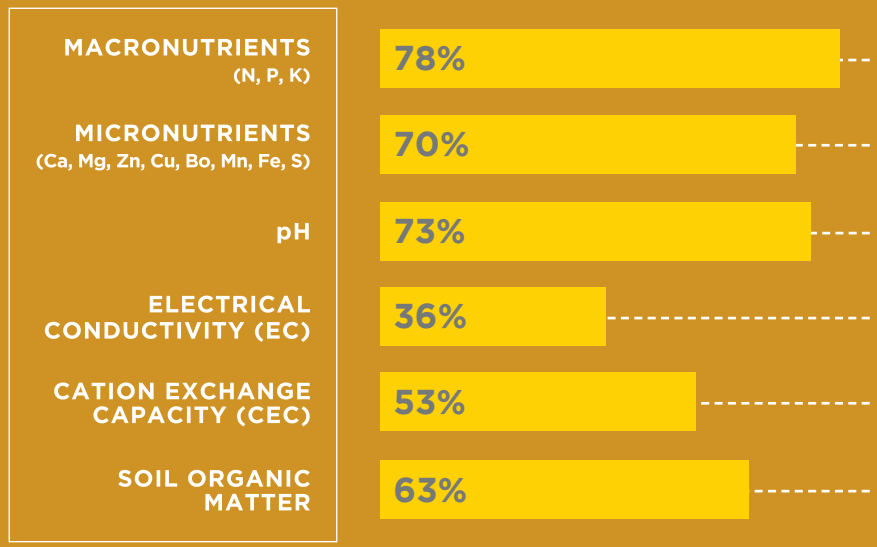
SOIL TESTING **DATA**

Macronutrients are elements that are required by crops in larger amounts to be healthy. Macronutrients include Nitrogen, Phosphorous, Potassium, Sulfur, Calcium and Magnesium. Each of these can contribute to key plant functions such as photosynthesis, moisture loss, plant stress and nutrient transport.

Micronutrients are minerals needed by crops in low quantities, however they contribute greatly to the overall health of the plant. Micronutrients include Iron, Manganese, Zinc, Boron, Copper and Molybdenum. Some of the functions of micronutrients include sugar transport, cell division support, disease resistance, chloroplast production and enzyme support.

SOIL TESTS CONDUCTED

% of total acres surveyed



SOIL TYPE

% of total acres surveyed

30% **FINE** (CLAY)

82% **MEDIUM** (SILT)

25% **COARSE** (SANDY)

3.5% **AVERAGE SOIL ORGANIC MATTER (SOM)*ACROSS FARMS SURVEYED**

Soil organic matter varies by region and soil type. The amount of organic matter in sand, loam, or clay soils range from very low being 1% by weight, to average being 2 to 4%, and high being greater than 5%.

NUTRIENT MANAGEMENT **PRACTICES**

BUILDING A HEALTHY SOIL BASE

Nutrient management is key to helping growers understand the optimal scenarios of macronutrients and micronutrients, pH levels and soil organic matter. By optimizing inputs of nutrients and incorporating various practices, growers can build a healthy soil base that promotes sustainable longevity and enhances economic benefits. Nutrient management incorporates understanding the right amounts, the right types, and the right timing for each of these for a particular crop year.

Soil organic matter, a component of nutrient management, is the area of the soil that contains plant residues and microorganisms that contribute to the productivity of the soil. Benefits of maintaining stable soil organic matter include: enhanced stability of the soil, stronger water holding capacity, longer retention of nutrients, and enhanced microbial diversity to fight crop diseases and pests.

There are a variety of practices that can promote healthy soil organic matter. Minimum till or no till maintains organic matter, lessens erosion, and keeps nutrient and pH more stable than tillage. Another practice to support soil organic matter is crop rotation and cover crops. By incorporating these varied crops, farmers can reduce erosion and cycle nutrients through the soil with diverse organic matter.

NUTRIENT MANAGEMENT DATA

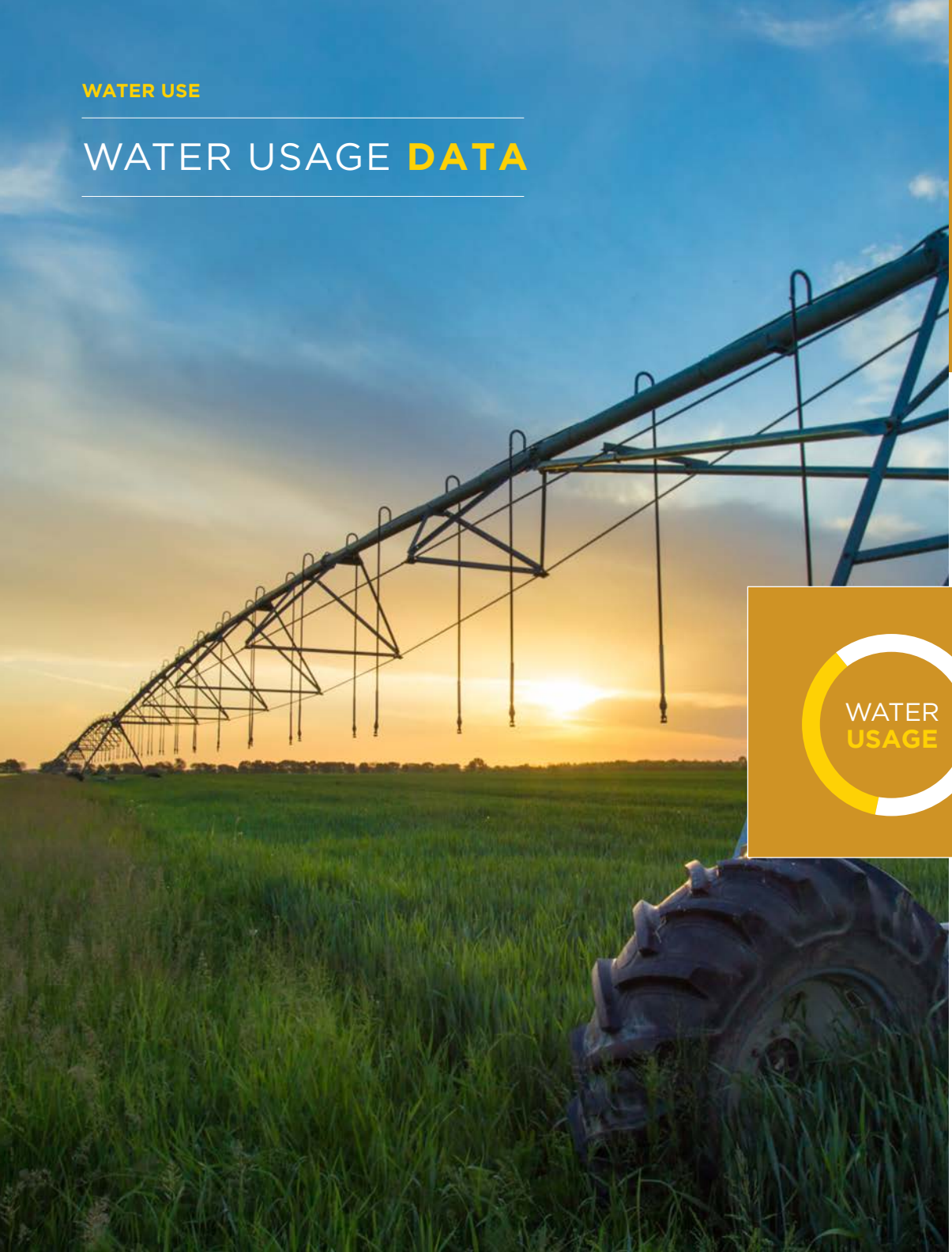
FARMER PRACTICES

% of total acres surveyed

NUTRIENT MANAGEMENT PLAN	54%
RATE RECOMMENDATIONS - MODEL OPTIMIZING FERTILIZER COST AND CROP YIELD	60%
RATE RECOMMENDATIONS - AGRICULTURE RESEARCH OR EDU EXTENSION PROGRAM	25%
CROP ROTATION	77%
REDUCED TILLAGE - CONSERVATION TILLAGE & NO TILLAGE	67%
USE OF COVER CROPS	38%
NUTRIENT/SOIL MANAGEMENT BASED ON SOIL MAPPING	41%
WORKING WITH AGRONOMIST	62%
USE OF NITRIFICATION INHIBITOR	35%

80% OF TOTAL ACRES SURVEYED HAVE INCORPORATED NO TILL OR MINIMUM TILL FOR 10 OR MORE YEARS

WATER USAGE **DATA**



"A healthier soil is likely going to make the wheat crop go through less drought stress and less nutrient stress because the organic matter can provide more water and nutrients to the

DR. ROMULO LOLLATO
WHEAT PRODUCTION EXTENSION SPECIALIST
KANSAS STATE UNIVERSITY

Wheat is inherently a water efficient crop. In many wheat growing regions, with soil management practices in place, growers can minimize evaporation and sustain ideal moisture levels without the need for irrigation.

81% ACRES NOT IRRIGATED

19% ACRES IRRIGATED
growers that irrigate use 8.1 ac/in

CENTER-PIVOT IRRIGATION

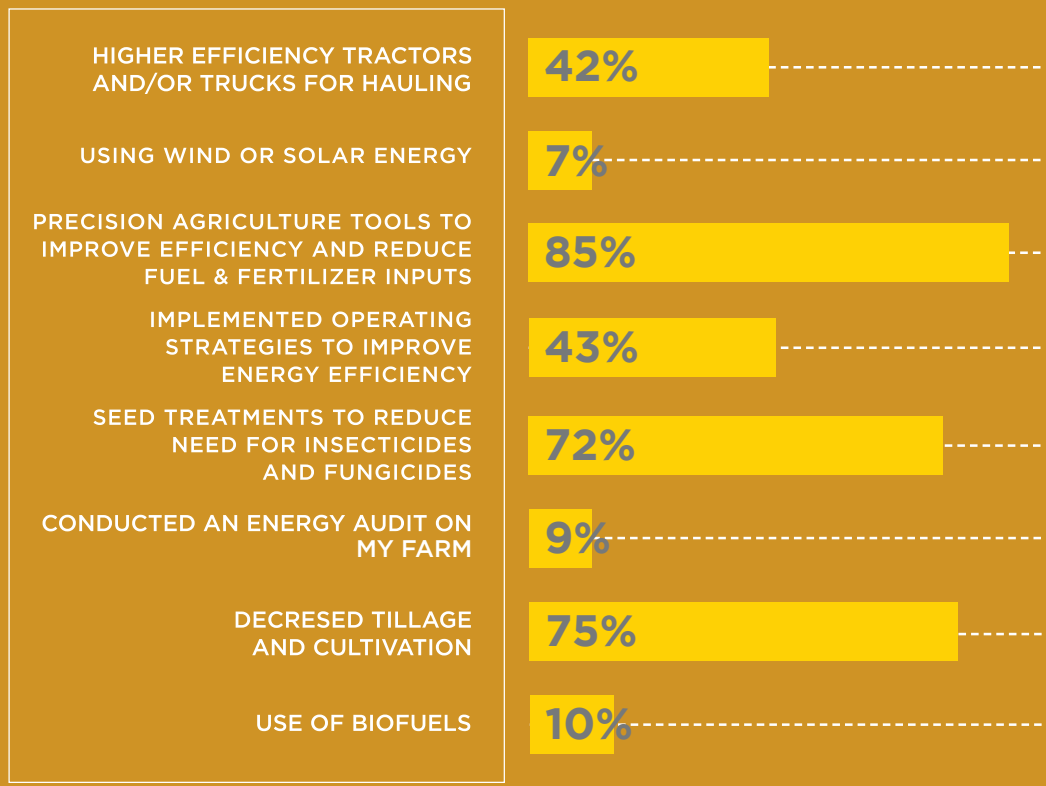
Center Pivot Irrigation is a form of irrigation that irrigates in a circle pattern around a center point. This point is where the water is fed into the system then it flows to arms of the structure. In addition to water, the system can also be used to spray crops with nutrients and herbicides. This innovative irrigation system can help to reduce water runoff by evenly spraying the water and can reduce soil erosion that can occur with other methods such as ground irrigation.

ENERGY USE **DATA**

Many growers have invested in practices and technologies over the past 20 or more years to achieve both energy efficiency and energy conservation on their farms. Both focuses are critical to sustainable agriculture and both contribute to reduction of fossil fuels—the primary source of greenhouse gas emissions.

WHAT MEASURES GROWERS ARE USING TO MAXIMIZE ENERGY USE EFFICIENCY

% of total acres surveyed



TECHNOLOGY IN THE FIELD

Precision Agriculture is the use of innovative technologies to help farmers grow more with less. Growers are challenged to find ways to produce more crops on already established farmland. Technology ranging from GPS to Bluetooth to drones can help increase efficiency and optimize available resources. For example, tools such as GPS guidance systems and auto-steer software can identify the most efficient routes for planting and harvesting around a field. They can also reduce the amount of time that machines spend on a field, which preserves fuel and drives sustainability.

SUSTAINABILITY **REVIEW**

SOIL HEALTH

Nutrient Management Practices are key in achieving a healthy soil which optimizes nutrients, water, and erosion. More than 82% of Grain Craft growers surveyed conduct soil tests to determine nutrient needs.

The primary practices used by our growers for nutrient management include:

- Crop rotation
- Reduced tillage including conservation tillage and no-till
- Working with an agronomist to evaluate and improve nutrient use efficiency
- Rate recommendation based on model optimizing nutrient cost and crop yield
- Developing a nutrient management plan

WATER USE

Wheat is inherently a water efficient crop. 81% of acres surveyed are rain-fed and don't rely on irrigation.

ENERGY USE

Energy efficiency and energy conservation are significant in sustainable agriculture. The primary measures growers are taking to maximize energy efficiency on their farms include:

- Precision Agriculture tools to improve efficiency and to reduce fuel inputs and optimize nutrient inputs
- Decreased tillage and cultivation
- Seed treatments to reduce the need for post emergent applications
- Implementing operating strategies to improve energy efficiency

"I think one of the main focuses we have on our farm and one of the main goals we should have on our farm is leaving the land in better condition

JARIS REGIER
REGIER GRAIN
FOURTH GENERATION WHEAT FARMER

GRAIN CRAFT

Throughout our industry, from wheat to consumer baked goods, we are all working together with a common goal – to progress and to ensure the practices we are using today are bettering our land, bettering our natural resources, and bettering our products for generations to come. We also strive to be a leader, a resource, and a collaborator on wheat quality improvement. The journey starts upstream and that is why we are working behind the scenes with wheat breeders, growers and universities that support sustainable agriculture and the longevity of quality wheat.

Sustainability is driven by a focus on the future, and to us, there is no finish line. We are already preparing for our next report that will expand on our initiatives and will lay out our vision for positive change on behalf of our planet, our people, and the communities and customers we serve.

ABOUT THIS REPORT

Our report features data captured from January 1 – October 30, 2024. The content focuses on information provided from a selection of Grain Craft Preferred Variety Growers.

The report is being delivered for informational purposes. Data included is grower-reported and is presented in aggregate to preserve grower confidentiality. This report may not be copied or reproduced without the prior written consent of Grain Craft.

MAIN OFFICE

201 West Main St.
Suite 203
Chattanooga, TN 37408

SATELLITE OFFICE

4400 West 109th St.
Suite 200
Overland Park, KS 66211

CONTACT

Phone: 423-265-2313
Toll Free: 855-809-9089
www.graincraft.com

GRAIN CRAFT