



SUSTAINABILITY REPORT | 2021

GRAIN  CRAFT

MILLING WHEAT INTO FLOUR
FOR MORE THAN 100 YEARS.

Dear Grain Craft Partners,

Valuing people, respecting our planet, taking care of our communities, and protecting our responsibility to feed the world are priorities that rest at the very heart of our business. Each of these are integrated in our daily decisions and guide our commitment to innovation. While sustainability is not new to Grain Craft, I am pleased to bring you our first Grain Craft Sustainability Report. This report was carefully crafted to tell the story of our ongoing and ever-expanding commitment to sustainability.

Our journey of sustainability starts with our growers. It's a relationship built on trust and guided by tradition of many generations. It is strengthened by a shared passion for conserving our land and a shared commitment of working together to progress sustainable growing and milling practices.

It is only natural that we begin our sustainability story with a focus upstream —on the origination of the wheat used to make our product. Many areas of sustainable agriculture can be positively impacted by optimizing current inputs, and the 2021 Grain Craft Sustainability Report will touch on these practices and the many ways our growers are progressively taking their stewardship to new levels.

A handwritten signature in black ink, appearing to read "Pete Frederick", with a stylized, flowing script.

PETE FREDERICK, PRESIDENT & CEO



GRAIN CRAFT

GROWING OUR FUTURE TOGETHER

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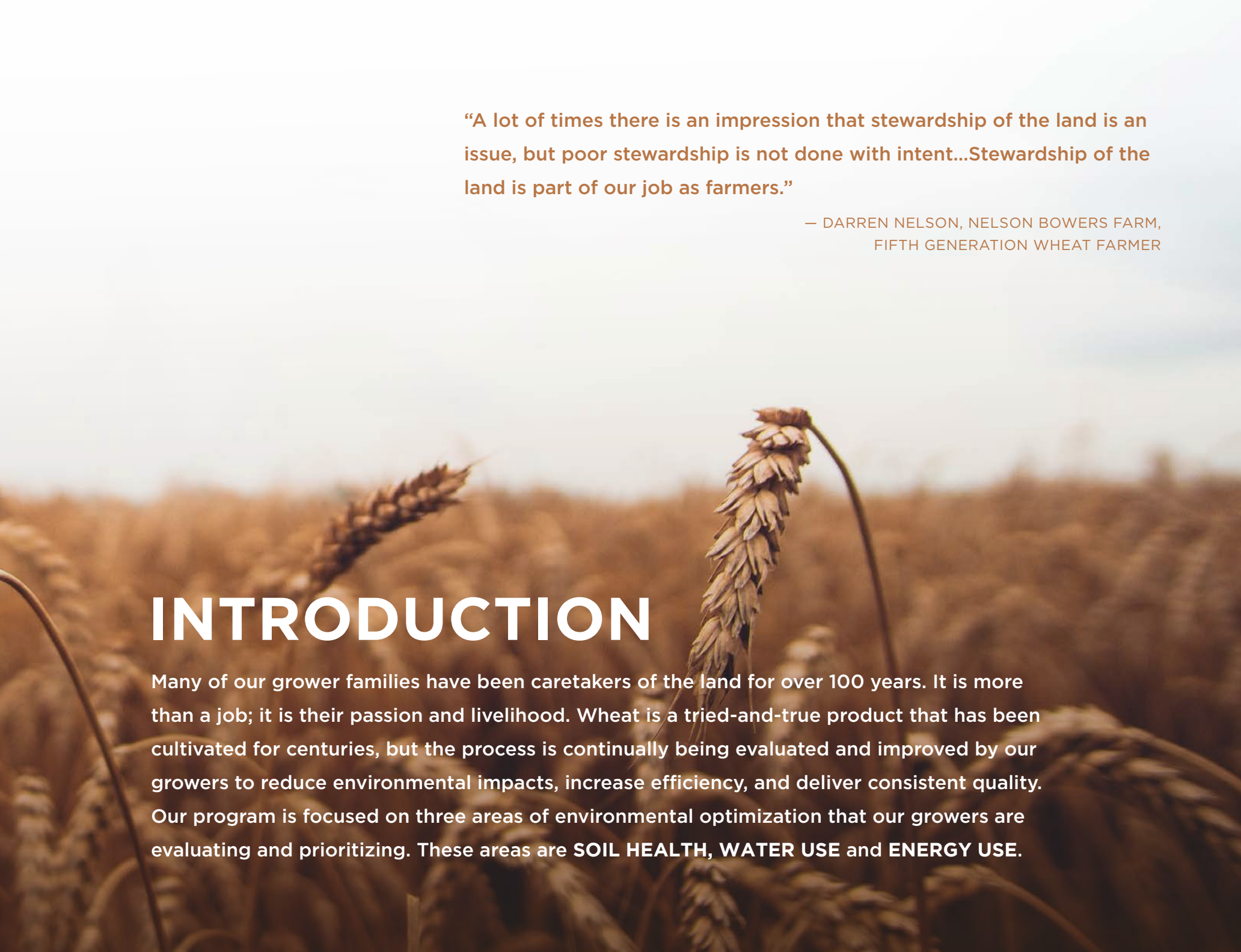
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The report is being delivered for informational purposes. Data included is grower-reported and is presented in aggregate to preserve grower confidentiality. This report may not be copied or reproduced without the prior written consent of Grain Craft.

ABOUT

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 13 milling locations, two offices and the Grain Craft Innovation & Quality (GCIQ) lab. With over 100 years of history, we continue 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 FARM,
FIFTH GENERATION WHEAT FARMER

INTRODUCTION

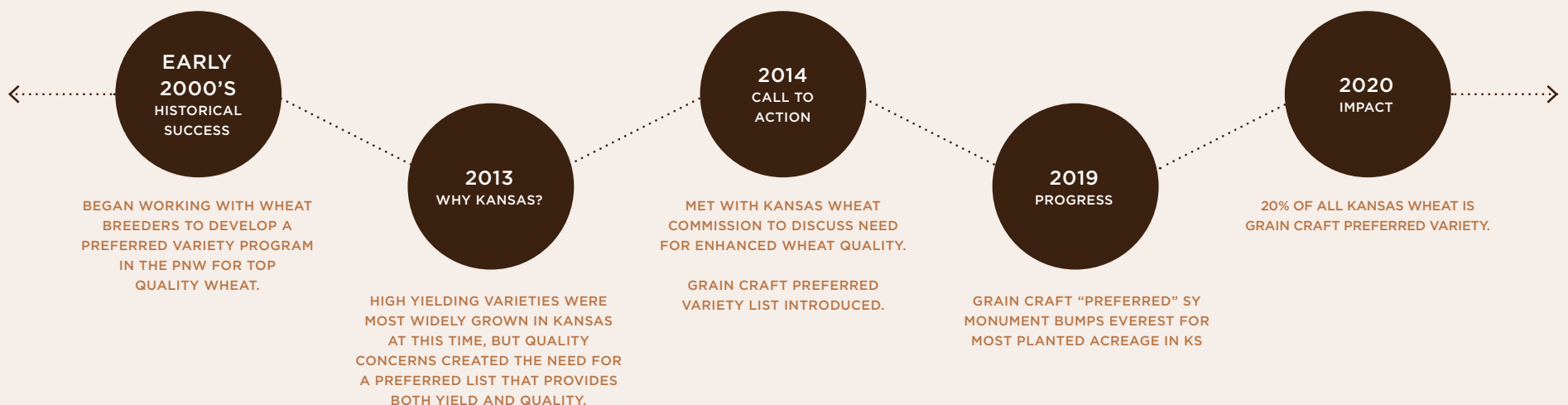
Many of our grower families have been caretakers of the land for over 100 years. It is more than a job; it is their passion and livelihood. Wheat is a tried-and-true product that has been cultivated for centuries, but the process is continually being evaluated and improved by our growers to reduce environmental impacts, increase efficiency, and deliver consistent quality. Our program is focused on three areas of environmental optimization that our growers are evaluating and prioritizing. These areas are **SOIL HEALTH, WATER USE and ENERGY USE.**

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 has shown successful yield and end-use performance, and is well adapted to thrive using sustainable agriculture practices.

“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, GRAIN CRAFT,
SR. DIRECTOR QUALITY & REGULATORY



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 and Oklahoma preferred varieties and provide a better performing flour. In 2021, the southern plains preferred variety program included over 21,000 acres planted and more than one million preferred variety bushels harvested.

“Deepening the connection up and down the chain from growers to bakers has the potential to facilitate tremendous positive change.”

ALAN KOENIG, GRAIN CRAFT,
CHIEF SUPPLY CHAIN OFFICER

QUALITY

Preferred Variety Crop HRW

WHEAT PROTEIN
ANALYSIS

..... 12.4

FLOUR WATER
ABSORPTION

..... 58.5

FLOUR STABILITY
ANALYSIS

..... 17

Ordinary Crop HRW

..... 11.4

..... 57.2

..... 13

**GRAIN CRAFT PREFERRED
VARIETY GROWERS:**



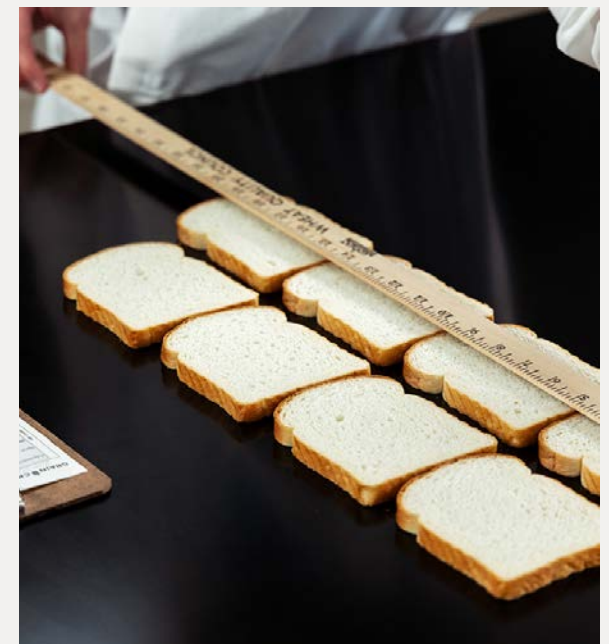
Less
Inputs



Greater
Yield



Better
Quality





OUR GROWERS

THE DATA ON THE FOLLOWING PAGES REPRESENTS A SAMPLE OF GRAIN CRAFT GROWERS WHO PROVIDED
INFORMATION ON THEIR SUSTAINABLE AGRICULTURE PRACTICES.

44,200 SURVEYED
ACRES
PLANTED 2021

AVERAGE YIELD
73 BUSHELS
PER ACRE

CONVENTIONAL
FARMING
METHODS | 88%
OF GROWERS

ADVANCING WHEAT

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 current study being conducted by 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. 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.

“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,” according to Lollato. **“The recent collaboration we have had with Grain Craft helped us reach that next level on making recommendations.”**

ROMULO LOLLATO,
WHEAT PRODUCTION
EXTENSION SPECIALIST,
KANSAS STATE
UNIVERSITY



SUSTAINABLE OPTIMIZATION

“I continually spend time in our fields walking, observing soils, particularly how many earthworms are present, how well our soils are taking in water, infiltrating water, and monitoring erosion levels... Observation is a really important part of learning and continual process of improvement which leads to better stewardship and restoration of our natural resources across time.”

JUSTIN KNOPE, KNOPE FARMS, FIFTH GENERATION FARMER.



SOIL HEALTH

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

MACRONUTRIENTS

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

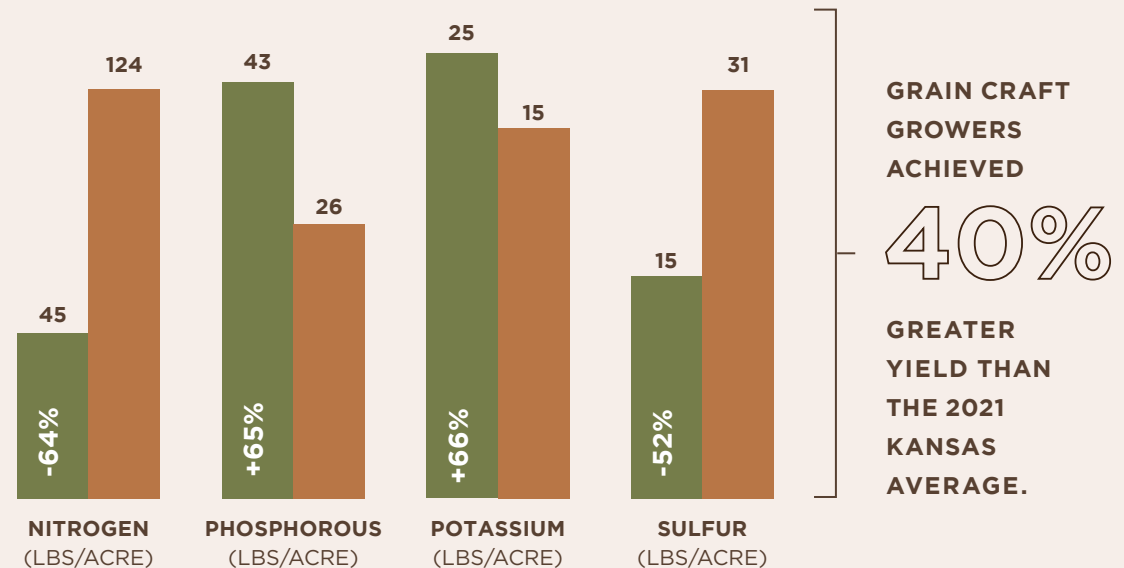
Micronutrients are minerals needed by crops in low quantities, however they contribute greatly to the overall health of the plant. Micronutrients include Iron, Manganese, Zinc, Boron, Copper and Molybdenum. Some of the functions of micronutrients include sugar transport, cell division support, disease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

MORE THAN 91% OF FARMERS SURVEYED CONDUCT SOIL TESTS.

2021 NUTRIENT USE (INPUTS)

■ GRAIN CRAFT SURVEYED WHEAT GROWERS ■ 2021 RECOMMENDATIONS*

*According to [K-State Department of Agronomy 2021 Recommendations](#)



“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.”

JUSTIN KNOPE, KNOPE FARMS,
FIFTH GENERATION FARMER

WHEAT RX

Kansas Wheat Rx is a newly launched program that is coordinated by Kansas Wheat and the K-State Research Extension. Wheat Rx is a hub of research recommendations and educational information that disseminates and addresses key plant and soil health management of hard winter wheat for producing high-yielding and high-quality wheat. The recommendations directed by Wheat Rx are the result of many collaborations and years of research. **Grain Craft is proud to be a founding partner of Wheat Rx.**

NUTRIENT MANAGEMENT

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.

“WHEAT IS ONE OF THE CROPS THAT BENEFITS THE SOIL THE MOST. THE AMOUNT OF RESIDUE THAT IS LEFT BEHIND AFTER WHEAT HARVEST GOES DIRECTLY INTO BUILDING THAT SOIL ORGANIC MATTER AS WELL.”

—ROMULO LOLLATO, WHEAT PRODUCTION EXTENSION SPECIALIST
AT KANSAS STATE UNIVERSITY

FARMER PRACTICES

NUTRIENT MANAGEMENT PLAN

34%

RATE RECOMMENDATIONS - MODEL
OPTIMIZING FERTILIZER COST
AND CROP YIELD

63%

RATE RECOMMENDATIONS -
AGRICULTURE RESEARCH OR
EDU EXTENSION PROGRAM

28%

RATE RECOMMENDATIONS OPTIMIZED
USING WEATHER DATA

9%

REDUCED TILLAGE - CONSERVATION
TILLAGE & NO TILLAGE

75%

USE OF COVER CROPS

47%

NUTRIENT/SOIL MANAGEMENT
BASED ON SOIL MAPPING

38%

WORKING WITH AGRONOMIST

56%

USE OF NITRIFICATION INHIBITOR

31%

54%

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

100%

OF FARMERS SURVEYED
REGULARLY ROTATE
CROPS IN SUBSEQUENT
SEASONS.

CROP CIRCLES: CENTER-PIVOT IRRIGATION

Created by farmer, Frank Zybach in the 1940s, 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.

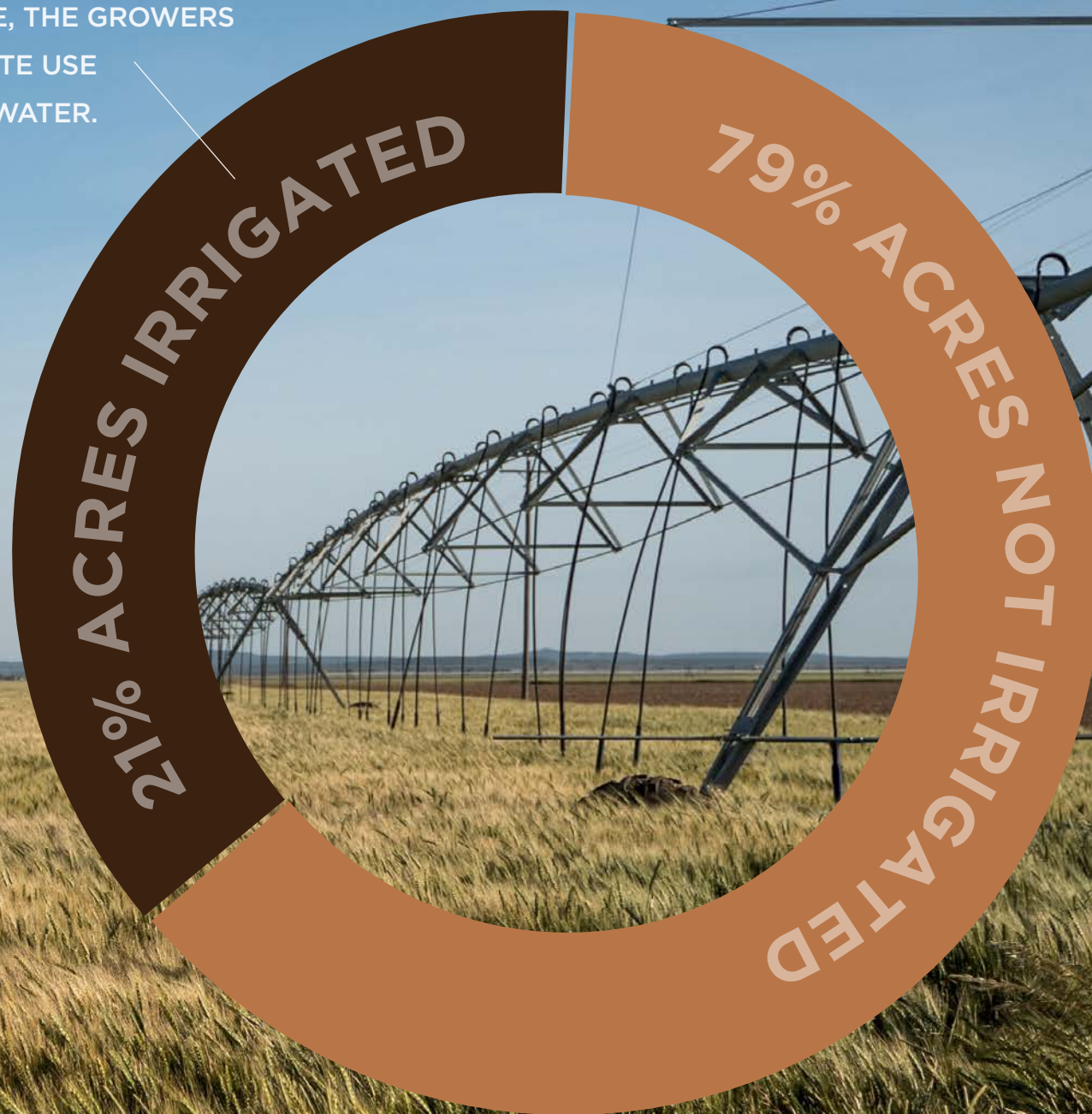
WATER USE

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.

“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 wheat.”

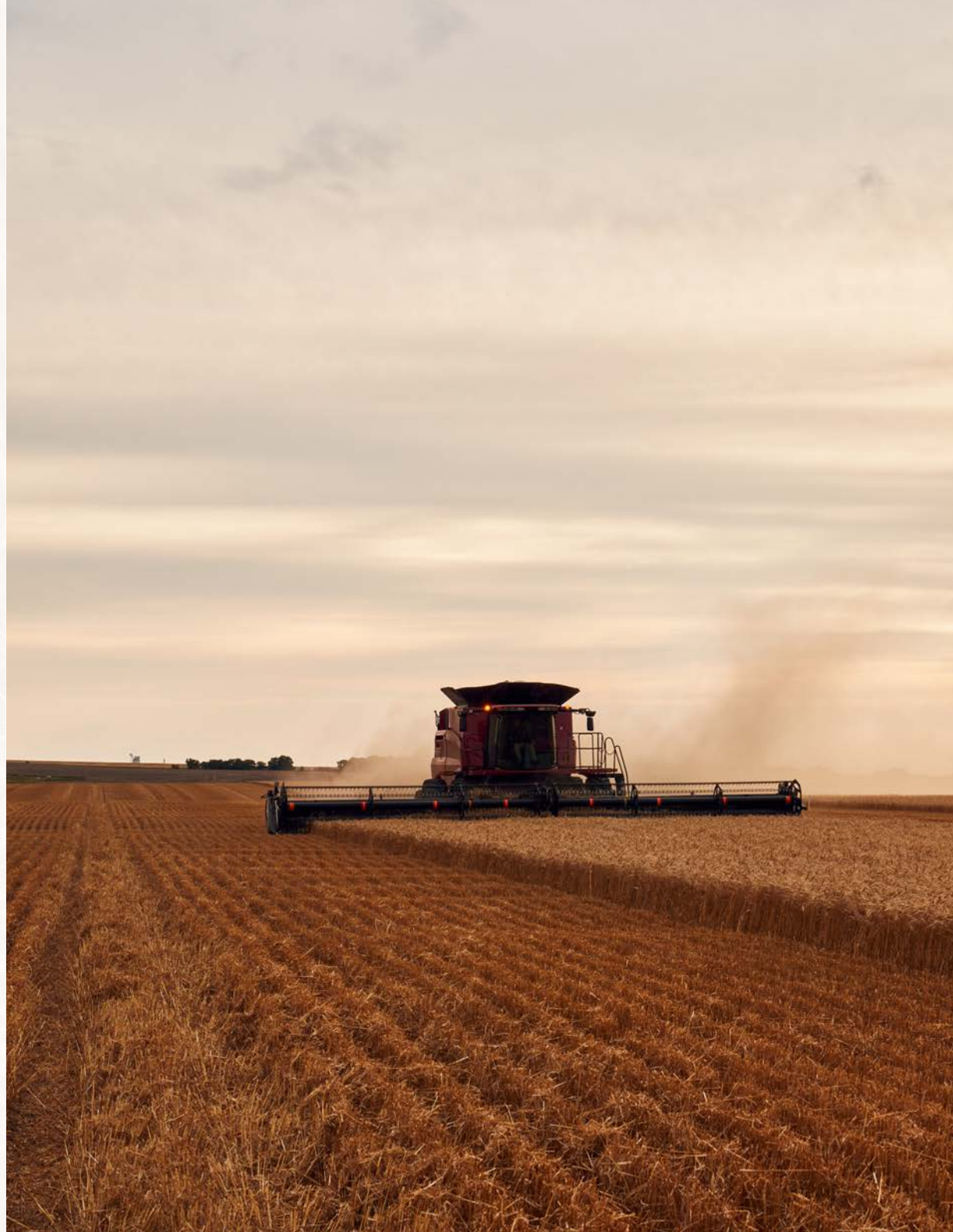
—ROMULO LOLLATO,
WHEAT PRODUCTION EXTENSION SPECIALIST
AT KANSAS STATE UNIVERSITY

ON AVERAGE, THE GROWERS
THAT IRRIGATE USE
11 AC/IN OF WATER.

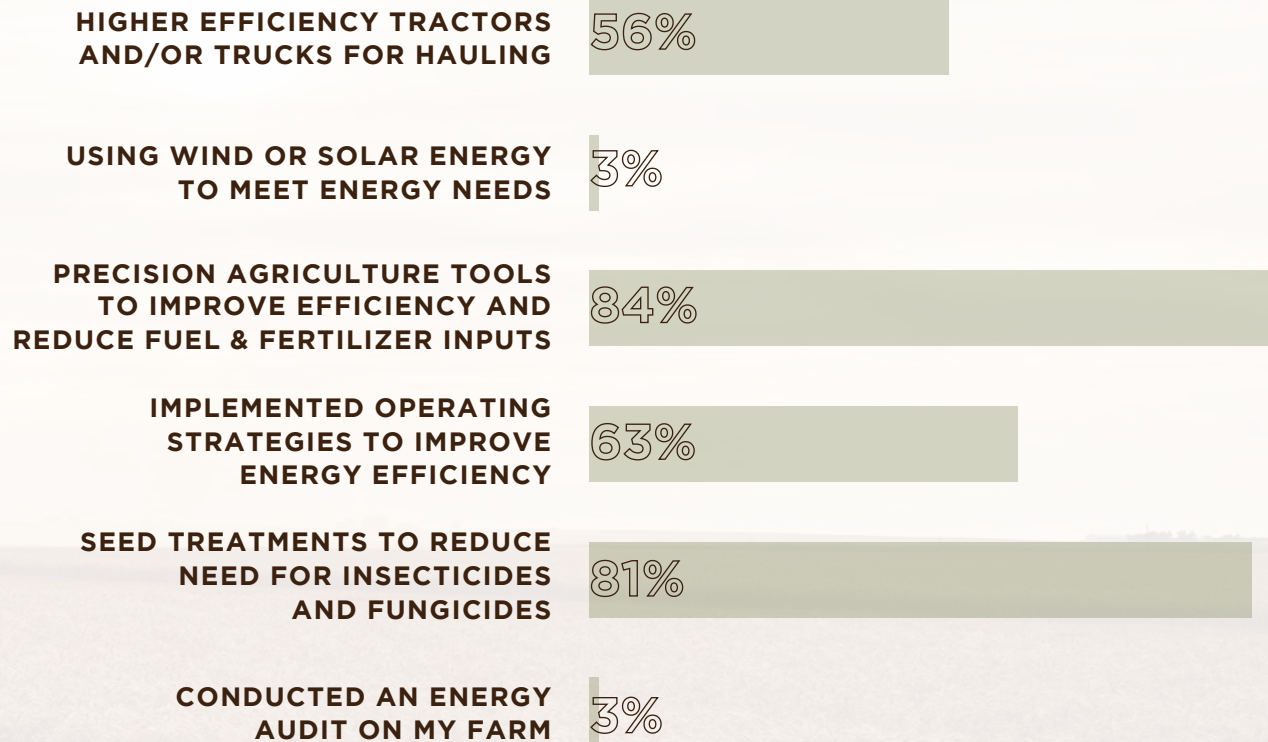


ENERGY USE

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 ARE GROWERS USING TO MAXIMIZE ENERGY USE EFFICIENCY:



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.



KEY HIGHLIGHTS

A close-up photograph of a pair of hands cupped together, holding a mound of dark, rich soil. The background is dark and out of focus.

SOIL HEALTH

Nutrient Management Practices are key in achieving a healthy soil which optimizes nutrients, water, and erosion. More than 91% of Grain Craft growers conduct soil tests to determine nutrient needs.

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

- Reduced tillage including conservation tillage and no-till
- Rate recommendation based on model optimizing nutrient cost and crop yield
- Crop rotation or using cover crops
- Working with an agronomist to evaluate and improve nutrient use efficiency
- Nutrient/Soil management based on soil mapping

A photograph of a large center pivot irrigation system in a dry, golden-brown field. The metal structure of the system extends from the foreground into the distance under a clear sky.

WATER USE

Wheat is inherently a water efficient crop.

79% of acres surveyed are rain-fed and don't rely on irrigation.

A photograph showing the interior of a tractor's cab. A large digital display screen is visible, showing various agricultural data and maps. The steering wheel and other controls are partially visible.

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
- Seed treatments to reduce the need for post emergent applications
- Operating strategies to improve energy efficiency
- Investing in higher efficiency tractors and trucks

“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 than when we received it.”

JARIS REGIER, REGIER GRAIN,
FOURTH GENERATION WHEAT FARMER

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.

GRAIN CRAFT

ABOUT THIS REPORT

Our report features data captured from January 1 – October 30, 2021. The content focuses on information provided from a selection of Grain Craft Preferred Variety Growers.

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