**Grand Challenge: Global Food Systems, Water, Health, & Community Vitality**

**Title:** Agriculture and Agribusiness need to continue producing food during drought, expensive inputs, and challenging times. How does Extension continue educating our Farmers and Ranchers?

**Why is this issue important?**

Agriculture and Agribusiness are the number one industry in Kansas. Shawnee County has 847 farms and a total of 201,662 acres in farm ground. Shawnee County has a total of 8,799 jobs and $1.88 billion dollars in the agriculture, food and food processing sectors. Agriculture research has one of the highest returns of any public investment. It has been estimated that research generates a benefit-cost ratio of 10:1. The local farmers have had numerous challenges in the last several years with higher fertilizer cost, higher fuel, more expensive parts and machinery cost, the aging farming population, and many weather challenges. The goal has been to keep food products for our consumers.

**How did Extension address this issue?**

K-State Research and Extension has two research farms in Shawnee County to run test on the best practices to increase production of food products for our area. They look at control of weeds, production of bushels of grain, time of planting and production, and many other factors dealing with all issues of growing crops in Kansas. This research has helped to increase production in our area. In 1960, a farmer fed just 26 people, today’s farmer feeds 155 people. Today’s farmer grows twice as much food as their parents did—using less land, energy, water and fewer emissions.

**What was the impact?**

Pictured are farmers at the August 2022 Kansas River Valley Experiment Field day near Rossville. The farmers look at the many Research and Extension test plots to test production of planting dates, row spacing, varieties, herbicides and pesticides used, and many other factors in growing crops in our area.