

## East Central Kansas Experiment Field

### Introduction

The research program at the Kansas State University East Central Kansas Experiment Field is designed to keep area crop producers abreast of technological advances in agronomic agriculture. Specific objectives are to (1) identify top performing varieties and hybrids of wheat, corn, soybean, and grain sorghum; (2) establish the amount of tillage and crop residue cover needed for optimum crop production; (3) evaluate weed and disease control practices using chemical, no chemical, and combination methods; and (4) test fertilizer rates, timing, and application methods for agronomic proficiency and environmental stewardship.

### Soil Description

Soils on the field's 160 acres are Woodson. The terrain is upland and level to gently rolling. The surface soil is a dark gray-brown, somewhat poorly drained silt loam to silty clay loam over slowly permeable clay subsoil. The soil is derived from old alluvium. Water intake is slow, averaging less than 0.1 in./hour when saturated. This makes the soil susceptible to water runoff and sheet erosion.

### 2023 Weather Information

The 2023 weather had a warmer winter and not as hot a summer. Precipitation during 2023 was 5.75 inches under the average, with 5 months having rainfall over the average (Table 1). The summer of 2023 had 36 days exceeding 90°F, with 4 days exceeding 100°F, which is below the average of 39 days exceeding 90°F in the last 5 years. There were 4 days with low temperatures in the single digits, compared to an average of 12 days in the previous 5 years. The last freezing temperature in the spring was April 23 (average, April 18), and the first killing frost in the fall was October 17 (average, October 21). There were 177 frost-free days, less than the long-term average of 185.

Rainfall and cooler temperatures in May made planting and field work challenging in the spring. There was adequate moisture to get corn and grain sorghum through a hot and dry last half of June through July. The corn and grain sorghum hybrid trials averaged 174 and 127 bu/a, respectively. However, soybean yields were really limited by the lack of rain in August, with the early maturing soybean variety trial averaging 28.5 bu/a and the later maturing trial 34.7, both below well below the averages of the previous years.

**Table 1. Precipitation at the East Central Kansas Experiment Field, Ottawa**

Month	2023	30-year avg. 1991–2022	Month	2023	30-year avg.
	----- in. -----			----- in. -----	
January	1.49	1.22	July	2.94	3.75
February	1.72	1.57	August	1.78	4.63
March	1.78	2.29	September	1.64	4.05
April	2.76	3.79	October	6.97	3.08
May	7.83	5.82	November	1.95	2.39
June	1.12	5.55	December	2.12	1.17
			Annual total	34.10	39.85