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## East Central Kansas Experiment Field

### Introduction

The research program at the 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.

### 2014 Weather Information

Precipitation during 2014 totaled (27.04 in.), which was 9.7 in. below the 35-year average (Table 1). Overall, the 2014 growing season was cooler than 2013. Average rainfall for the months of June and October were the only months receiving above the average. The summer of 2014 had 30 days exceeding 90.0°F, and three of those days exceeded 100.0°F. The coldest temperatures occurred in January, February and November, with 28 days with low temperatures in single digits. The last freezing temperature in the spring was April 18 (average: April 18), and the first killing frost in the fall was October 31 (average: October 21). There were 196 frost-free days, which is more than the long-term average of 185.

The early season growing conditions were very good until July after corn pollination. This is reflected in the short-season and full-season corn hybrid trials that averaged 172 and 195 bu/a, respectively. The drier July and August had a greater effect on soybean yields, with the soybean variety trial averaging 41 bu/a.

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

| Month    | 2014            | 35-year avg. | Month        | 2014            | 35-year avg. |
|----------|-----------------|--------------|--------------|-----------------|--------------|
|          | ----- in. ----- |              |              | ----- in. ----- |              |
| January  | 0.18            | 1.03         | July         | 0.85            | 3.37         |
| February | 0.59            | 1.32         | August       | 2.88            | 3.59         |
| March    | 0.57            | 2.49         | September    | 3.39            | 3.83         |
| April    | 3.49            | 3.50         | October      | 4.35            | 3.43         |
| May      | 1.18            | 5.23         | November     | 0.38            | 2.32         |
| June     | 7.10            | 5.21         | December     | 2.08            | 1.45         |
|          |                 |              | Annual total | 27.04           | 36.78        |