
Kansas River Valley Experiment Field

Introduction

The Kansas River Valley Experiment Field was established to study management and effective use of irrigation resources for crop production in the Kansas River Valley (KRV). The Paramore Unit consists of 80 acres located 3.5 miles east of Silver Lake on U.S. Highway 24, then 1 mile south of Kiro, and 1.5 miles east on 17th street. The Rossville Unit consists of 80 acres located 1 mile east of Rossville or 4 miles west of Silver Lake on U.S. Highway 24.

Soil Description

Soils on the two fields are predominately in the Eudora series. Small areas of soils in the Sarpy, Kimo, and Wabash series also occur. Except for small areas of Kimo and Wabash soils in low areas, the soils are well drained. Soil texture varies from silt loam to sandy loam, and the soils are subject to wind erosion. Most soils are deep, but texture and surface drainage vary widely.

2016 Weather Information

The year was not as cold as previous years, but it was wetter during most of the growing season. The frost-free season was 212 days at both units (average = 173 days), with 7 and 8 days in single digits at Paramore and Rossville, respectively. This compares to 19 and 18 days in single digits in 2015 at Paramore and Rossville, respectively, compared to 30 and 31 days in 2014, respectively. The last spring freeze was April 12 (average = April 21), and the first fall freeze was November 10 (average = October 11). There were 43 and 39 days above 90°F at Paramore and Rossville, respectively, and one of those days above 100°F. Precipitation was above normal at both fields for the year (Table 1) and above average for all the months during the growing season except June. Irrigation requirements were approximately 6 inches for the corn and 1 inch for the soybeans. The corn performance trials averaged 226 bu/a for the irrigated and 180 bu/a for the dryland. The soybean performance trials averaged 57 bu/a for the irrigated and 76 bu/a for the dryland. The extremes in soil moisture from dry to saturated may have been the major yield limiting factor in the irrigated corn, and sudden death syndrome in 2016 was more severe than in 2015, but less than in 2014 in the irrigated soybeans at KRV.

Table 1. Precipitation at the Kansas River Valley Experiment Field

| Month | Rossville unit | | Paramore unit | |
|-----------|-----------------|-----------------|---------------|-----------------|
| | 2016 | 30-year average | 2016 | 30-year average |
| | ----- in. ----- | | | |
| January | 0.84 | 3.18 | 0.74 | 3.08 |
| February | 0.58 | 4.88 | 0.53 | 4.45 |
| March | 1.14 | 5.46 | 1.03 | 5.54 |
| April | 10.30 | 3.67 | 6.37 | 3.59 |
| May | 6.63 | 3.44 | 5.61 | 3.89 |
| June | 2.31 | 4.64 | 2.73 | 3.81 |
| July | 4.91 | 2.97 | 5.30 | 3.06 |
| August | 7.61 | 1.90 | 4.96 | 1.93 |
| September | 9.20 | 1.24 | 10.33 | 1.43 |
| October | 1.68 | 0.95 | 1.15 | 0.95 |
| November | 0.34 | 0.89 | 0.23 | 1.04 |
| December | 0.85 | 2.42 | 0.81 | 2.46 |
| Total | 46.39 | 35.64 | 39.79 | 35.23 |