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Kansas River Valley Experiment Field Introduction

E. A. Adee
Kansas State University, eadee@ksu.edu

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Abstract

The Kansas River Valley (KRV) Experiment Field was established to study management and effective use of irrigation resources for crop production in the 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.

Keywords

Kansas River Valley soil, Kansas River Valley weather, Kansas River Valley precipitation

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Introduction

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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.

2014 Weather Information

The year was cooler and wetter than the previous year, although there were more frost-free days. The frost-free season was 194 days at the both units (average = 173 days), and 30 and 31 days in single digits at Paramore and Rossville, respectively. The last spring freeze was April 18 (average = April 21), and the first fall freeze was October 29 (average = October 11). There were 30 and 31 days above 90°F at Paramore and Rossville, respectively, and 3 of those days were above 100°F at Rossville. Precipitation was below normal at both fields for the year (Table 1) but was above average for several months during the growing season. For the year, the rainfall deficit for Rossville was 3.35 in., and 8.7 in. for Paramore. The irrigated corn hybrid and soybean variety trials averaged 266 and 41 bu/a, respectively. The corn yields responded well to the cooler weather; however, the high amount of rainfall in June contributed to sudden death syndrome, a major yield-limiting factor in irrigated soybeans at KRV. Dryland corn hybrid and soybean variety trials averaged 195 and 59 bu/a, respectively, indicating a good growing season unless disease was present.

Table 1. Precipitation at the Kansas River Valley Experiment Field

	Rossville Unit		Paramore Unit	
Month	2014	30-year avg.	2014	30-year avg.
	---------- in. ----------			
January	0.04	3.18	0.01	3.08
February	0..59	4.88	0.65	4.45
March	0.27	5.46	0.25	5.54
April	3.24	3.67	2.89	3.59
May	3.41	3.44	2.36	3.89
June	8.26	4.64	7.05	3.81
July	1.37	2.97	1.11	3.06
August	4.95	1.90	3.23	1.93
September	3.15	1.24	2.52	1.43
October	4.37	0.95	4.00	0.95
November	0.35	0.89	0.41	1.04
December	2.29	2.42	0.40	2.46
Total	32.29	35.64	26.53	35.23