

Evaluation of Irrigation on 2014 Crop Yields at the CREC

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The 2014 growing season at the Carrington Research Extension Center was nearly the exact opposite from 2013. Most research trials were planted earlier than the year before. Once emerged, most crops received adequate amounts of rainfall through the early part of the growing season. Like 2013, irrigation was initiated on variety trials in June. After the first application, the two main wells used for supplying the center pivots were non-operational as the control boards were damaged. Luckily, over 3 inches of rain fell that month to get the crops through, unlike in 2013 when under 1 inch of rain fell in June (Table 1). Once the pivots were operational in July, rainfall kept soil moisture at sufficient levels. A little over 3 inches of irrigation was applied in July in between rain events. Throughout the season, 5.82 inches of irrigation was applied compared to over 9 inches in 2013.

Table 1. 2014 Precipitation at the CREC.

Month	Irrigation inch	Rainfall inch	Total inch
May	0	1.58	1.58
June	1	3.32	4.32
July	3.32	2.57	5.89
August	1.5	1.78	3.28
September	0	1.54	1.54
Total	5.82	10.79	16.61

In 2013, variety trial yields displayed the benefits of irrigation with increases in crop yields across the entire station. In 2014, however, with the amount of rainfall received and the level of soil moisture maintained, variety trials did not experience those types of increases. In fact, as shown in Table 2, soybean, corn, spring wheat, and barley variety trials all had decreased yields under irrigation. Though they may not seem like significant differences, a producer considering adding irrigation to their fields must develop a good management plan for years such as this. The amount of water along with the timeliness of it, whether it be rain or irrigation water, is crucial to plant development and growth stage should be considered when planning applications.

Table 2. Yield of 2014 Variety Trials at the CREC.

Crop	Dryland bu/ac	Irrigated bu/ac
RR Soybean	61.3	50.2
Corn	176.8	172.5
Spring Wheat	91.7	65.9
Barley	127.5	116