2014: A Great Year for CREC Trials

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A late start, cool summer, and periods of limited rainfall are all characteristics of the 2014 growing season, which would normally put crops under duress and limit yield potentials. These factors were coupled with early-season moisture, (relatively) early last frost, late killing frost, and a warm October. This combination of effects resulted in great conditions for crop growth and maturity across both warm- and cool-season species. In fact, many of the variety trials at the CREC experienced record high average yields. In particular, the cool-season cereals and legumes performed exceptionally well, even compared to the last several years which were considered good growing conditions for many of those crops. The upswing in yields was most evident at the Wishek research site which experienced a minimum 20 percent boost in yield compared to the 3-year average for each crop grown at that location (Table 1). Canola represented the most obvious beneficiary of the growing season, as the early season growth was robust, followed by a long flowering and maturity period. The result was a 48 percent increase over the 3-year average. One of the factors that prolonged the reproductive stages of canola was likely the cooler than normal temperatures experienced during that timeframe.

Many of the warm-season crops also benefited from the growing season; soybeans more than others it seems, even though some areas were running short on moisture during the reproductive stages of soybean development. Cooler temperatures also likely helped reduce the effects of moisture stress during this period. However, the success of the late-season crops would be dramatically different had a killing frost occurred near the yearly average frost date (which some locations did experience). The killing frost on October 3 allowed the majority of the crops to reach or nearly reach physiological maturity. After the frost, we experienced a warm October which also allowed the late-season crops to dry down.

Table 1. Variety trials with at least a 20% yield increase over the 3 year average.

Crop	Location	Trial ID	Increase
			%
Soybean	Carrington	Dryland Roundup Ready	23
Soybean	Wishek	Dryland Roundup Ready	45
Soybean	LaMoure	Dryland Roundup Ready	55
Spring Wheat	Carrington	Dryland	34
Spring Wheat	Carrington	Organic	35
Spring Wheat	Wishek	Dryland	39
Spring Wheat	Dazey	Dryland	23
Winter Wheat	Carrington	Dryland	39
Winter Wheat	Wishek	Dryland	30
Barley	Carrington	Dryland	26
Barley	Wishek	Dryland	59
Barley	Dazey	Dryland	31
Canola	Carrington	Dryland Roundup Ready	49
Canola	Carrington	Dryland Clearfield	48
Sunflower	Carrington	Dryland Oilseed	51
Flax	Carrington	Dryland	33
Field Pea	Carrington	Dryland	26
Field Pea	Carrington	Organic	21
Corn	Oakes	Dryland	39