



Evaluation of Winter Canola Grown in 30 inch Rows

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Past research in Oklahoma has indicated that yield potential may decrease from 0 to 10% when canola is grown in 30 inch rows, however, very little research has been conducted to determine the cultivar differences at the wider row spacing. Some producers prefer using row crop planters with row spacing greater than 15 inches in an effort to manage residue and control seeding depth. We need to determine if differences exist between hybrids and open-pollinated varieties when planted in 30 in rows.

Objectives:

1. Evaluate cultivar selection as a tool for winter canola grown with wide (>15 inch) row spacing.

Methods:

In the fall of 2011 two trial locations were identified, one at the North Central Research Station near Lahoma, OK, and one near Stillwater, OK to evaluate the effect of row spacing on seed yield. To meet this objective several high yielding canola cultivars were chosen for both locations. Treatments were randomized in a complete block design with 4 replications. Row spacing treatments consisted of 7.5, 15, and 30 inches. A complete list of treatments is given in Table 1. The 7.5 and 15 in row treatments were seeded with a GreatPlains no-till drill, while the 30 in row treatments were seeded with a 4 row Monosem vacuum planter equipped with Yetter row cleaners. Only DKW 44-10, HyClass 115, and Sitro were used for all three row spacings. These three cultivars were chosen based on a past yield history and they represent both open pollinated (DKW 44-10 and HyClass 115) and hybrid (Sitro) canola cultivars. All other cultivars were only planted at 30 inches.

Table 1. Treatments for Stillwater and Lahoma in 2011-2012.

Row Spacing and Cultivar	Seeding Rate
7.5" - DKW 44-10	5 lb/ac
7.5" - Sitro	
7.5" - HyClass 115	
15" - DKW 44-10	
15" - Sitro	
15" - HyClass 115	3 lb/ac
30" - DKW 44-10	
30" - DKW 46-15	
30" - DKW 47-15	
30" - Baldur	
30" - Sitro	
30" - HyClass 115	
30" - HyClass 125	

30" - HyClass 154

Results:

Yields were excellent at both locations. Average yield at Lahoma was 2647 lb/ac, while at Stillwater average yield was 1925 lb/ac. Below are some key observations on stand establishment between the treatments.

Emergence

- Overall, the 30 inch treatments emerged quicker and more evenly. This was probably due to more uniform seeding depth in the planter treatments.
- A greater percent emergence was observed with planted plots when compared to drilled plots.
- Two to three lb/ac seems to be adequate for 30 inch row spacing.

Row Spacing

A significant row spacing effect was observed for Stillwater where the average yield was 729 lb/ac less than the average of the 7.5 and 15 row spacing (Figure 1). At Lahoma, no row spacing effect was observed, all yields were extremely high.

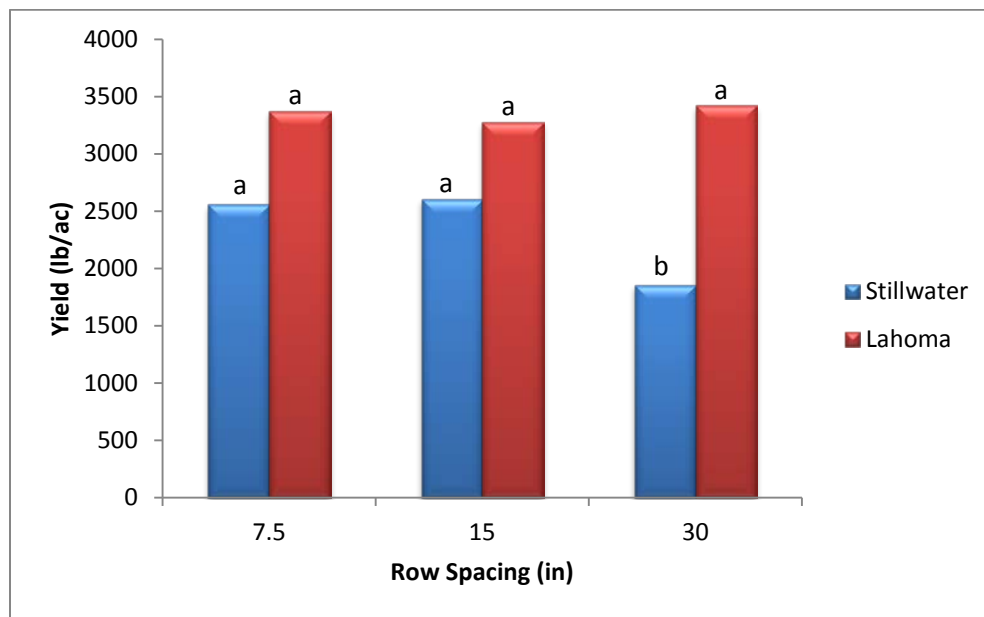


Figure 1. Effect of row spacing on winter canola yield at Stillwater and Lahoma in the 2011-2012 growing season. This analysis only includes DKW 44-10, HyClass115, and Sitro.

When considering cultivar performance between the different row spacings, Sitro was the best at both locations. However, at Stillwater Sitro was similar to DKW 44-10. Sitro is a hybrid so these differences may indicate that hybrids will perform better in wider row configurations when compared to open

pollinated varieties. A large part of the difference in row spacing observed at Stillwater can be attributed to the poor performance of DKW 44-10 and HyClass 115 in the 30 inch treatment.

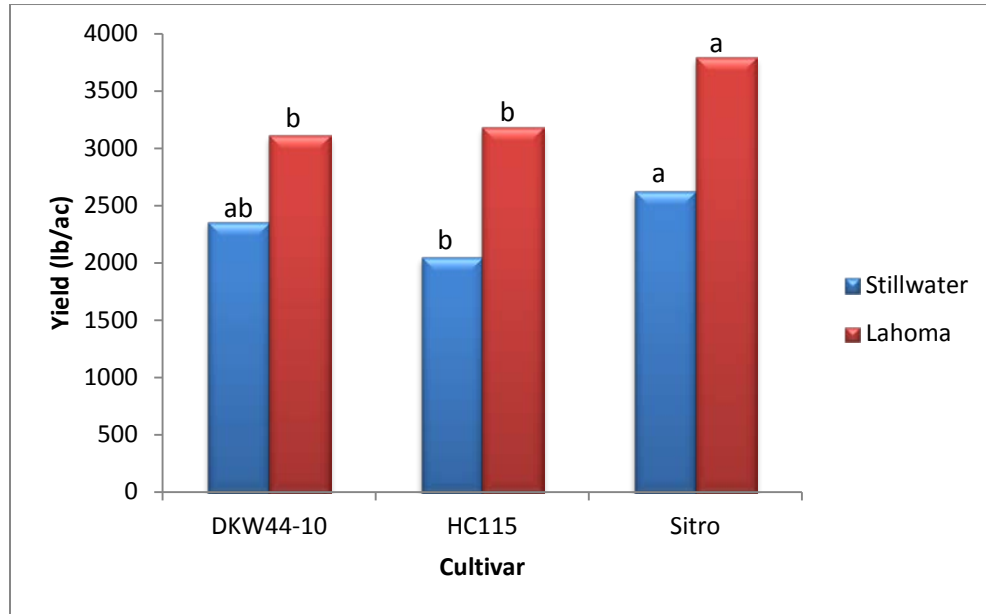


Figure 2. Effect of cultivar on winter canola yield at Stillwater and Lahoma in the 2011-2012 growing season. This analysis only includes DKW 44-10, HyClass115, and Sitro.

Cultivar Performance in 30 inch Rows

Hybrids tended to perform better in 30 in rows compared to open pollinated varieties at Stillwater (Figure 3). Observations made prior to harvest did seem to indicate that hybrids branched more compared to most open pollinated varieties. An increase in branching would help compensate for the wider row spacing.

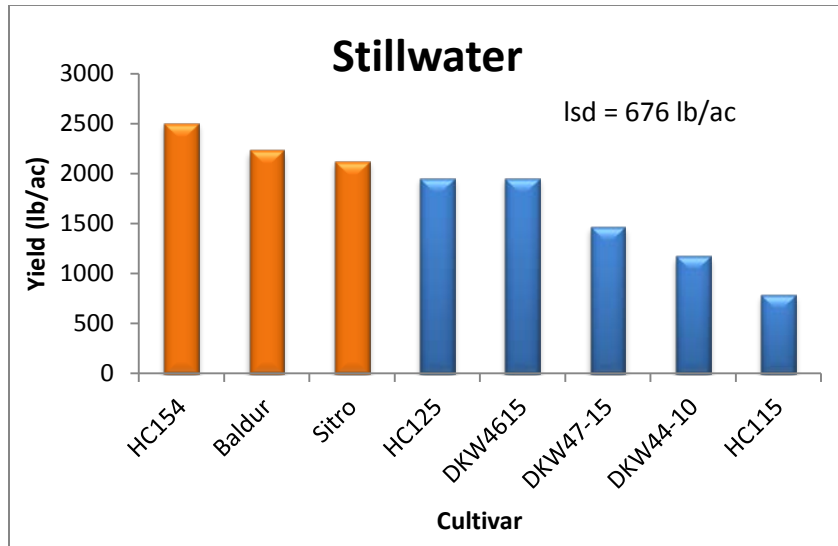


Figure 3. Winter canola cultivar performance in 30 in rows at Stillwater, OK in 2011-2012. Hybrids are the orange bars and open pollinated varieties are blue.

At Lahoma, Sitro was clearly the best cultivar at a row spacing of 30 in. The trend was not as clear as Stillwater but hybrids tended to perform better on average than open pollinated varieties.

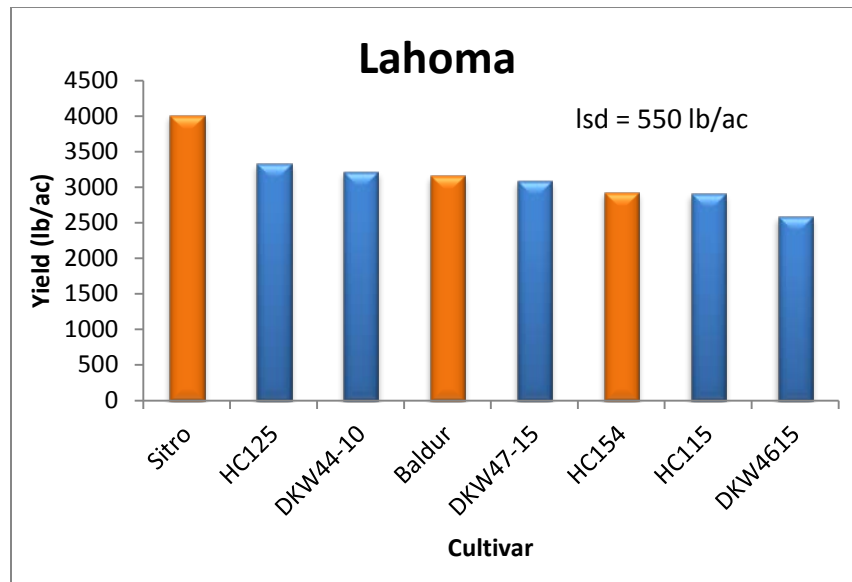


Figure 4. Winter canola cultivar performance in 30 in rows at Lahoma, OK in 2011-2012. Hybrids are the orange bars and open pollinated varieties are blue.

Summary

- Data from 2011-2012 is similar to what we have seen in the past, a yield reduction of 0 to 10% when increasing row spacing from 15 in to 30 in.
- Using a row crop planter to manage residue in no-till situations is a viable option.
- Seeding rate can be reduced to 2.5-3 lb/ac when planting with a row crop planter.
- If you are utilizing a row crop planter to help manage residue, selection of a high yielding hybrid appears to reduce yield loss associated with wider row spacing. Hybrid seed may be easier to meter.