2009-2010 No-till Winter Canola Row Spacing Study

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Plots were established and planted on Sept. 17 to DKW 46-15. Both locations were planted following an average yielding wheat crop harvested in 2009. Plots were 10 ft by 30 ft in length. A Great Plains NT drill was used for the 15 in row spacing treatments. The coulter used was a turbo-till fluted coulter. All 30 in treatments were planted with a Monosem vacuum planter equipped with Yetter row cleaners. All treatments were planted at 5 mph.

Treatment No.	Seeder	Spacing (in)	Residue Management	Tillage	Seeding Rate (lb/ac)
1	Planter	30	Yes	no till	2
2	Planter	30	Yes	no till	3
3	Planter	30	Yes	no till	4
4	Planter	30	Yes	no till	5
5	Drill	15	No	no till	5
6	Drill	15	No	Conv.-till	5
7	Drill	15	Coulter	no till	5

Stand counts were taken in three separate three ft segments in each plot 5, 7, 9, 13, and 55 days after planting to get a rate of emergence and final fall stand count. A winter survival stand count was taken on March 16, 2010.

Results

Emergence

- Overall, the planter trt's emerged quicker and more evenly.
- A greater percent emergence was observed with planted plots when compared to drilled plots. This was especially true at the lower seeding rates (2 and 3 lb/ac).
- Two to three lb/ac seems to be adequate for 30 in row spacing.

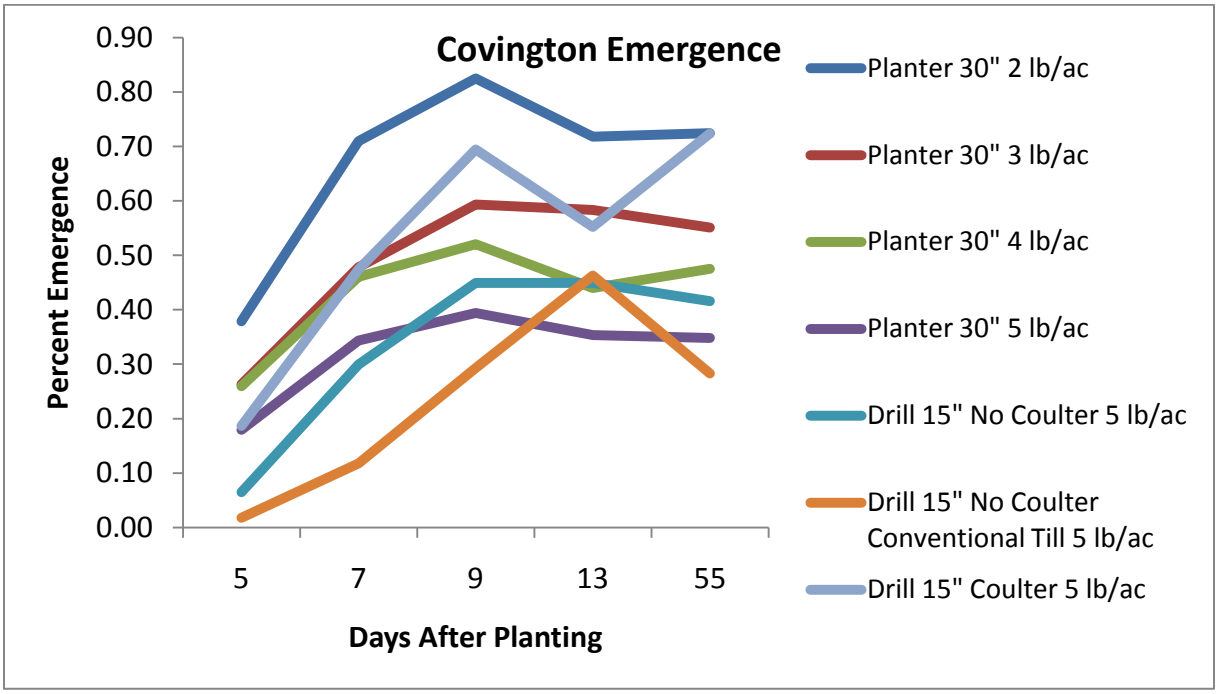
Winter Survival

- A greater percent of plants died in the 30 in row spacing. All 30 in treatments ended up having a stand count in the 2.5 to 3 plants/ft^2 regardless of seeding rate.
- The 15 in row spacing had more plants per square foot than the 30 in row spacing.

Yield

- No differences were observed between treatments. Overall, yields were lower than expected. At Covington, soil pH ranged from 4.5 to 5.1 between reps so this limited yield. At Red Rock insect and weed pressure limited yield.

- Under high yielding environments I think we may see a 10% reduction in yield when planting on 30 in rows. Choosing a cultivar that branches profusely appears to be important as we did not observe complete row closure on the 30 in row spacing.



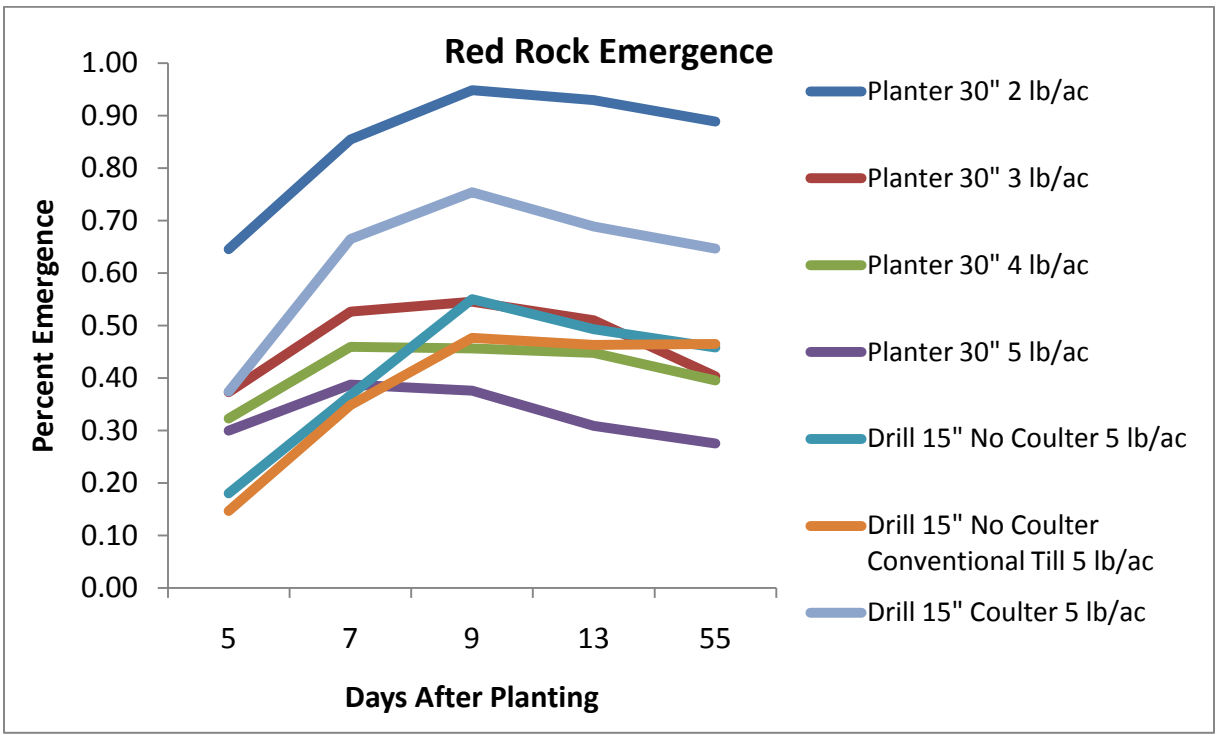


Table 2. Final fall stands and winter survival for Covington, OK location.

Treatment No.	Seeder	Spacing	Residue Management	Tillage	Final Fall Stands	Winter Survival	Decrease
					- - - plants/ft^2 - - -		- - - % - - -
1	Planter	30	Yes	no till	3.8	2.3	40%
2	Planter	30	Yes	no till	16.8	2.6	85%
3	Planter	30	Yes	no till	19.8	3.0	85%
4	Planter	30	Yes	no till	17.8	2.7	85%
5	Drill	15	No	no till	5.5	4.2	24%
6	Drill	15	No	Conv.-till	3.7	2.6	30%
7	Drill	15	Coulter	no till	9.6	3.8	61%

Table 3. Final fall stands and winter survival for Red Rock, OK location.

Treatment No.	Seeder	Spacing	Residue Management	Tillage	Final Fall Stands	Winter Survival	Decrease
					- - - plants/ft^2 - - -		- - - % - - -
1	Planter	30	Yes	no till	4.6	3.1	33%
2	Planter	30	Yes	no till	12.3	2.4	80%
3	Planter	30	Yes	no till	16.4	3.0	82%
4	Planter	30	Yes	no till	14.1	2.5	82%
5	Drill	15	No	no till	6.0	4.5	26%
6	Drill	15	No	Conv.-till	6.1	5.2	15%
7	Drill	15	Coulter	no till	8.5	5.9	31%

Table 4. Seed yields at the two locations.

Row Spacing	Location	
	Covington	Red Rock
- - - in - - -	- - lb/ac - -	
15	1396	1043
30	1360	921

Table 5. Seed yields at Covington, OK.

Treatment No.	Row Spacing	Seed Rate	Row cleaner/coulter	Tillage	Yield
	- in -	- lb/ac-			- - lb/ac - -
1	30	2	Yes	No	1374
2	30	3	Yes	No	1412
3	30	4	Yes	No	1242
4	30	5	Yes	No	1431
5	15	5	No	No	1221
6	15	5	No	Yes	1441
7	15	5	Yes	No	1425

Table 6. Seed yields at Covington, OK.

Treatment No.	Row Spacing	Seed Rate	Row cleaner/coulter	Tillage	Yield
	- in -	- lb/ac-			- - lb/ac - -
1	30	2	Yes	No	1032
2	30	3	Yes	No	824
3	30	4	Yes	No	944
4	30	5	Yes	No	885
5	15	5	No	No	939
6	15	5	No	Yes	1264
7	15	5	Yes	No	929