

Canola Seeding Rate Trials

2022 – 2023 Summary

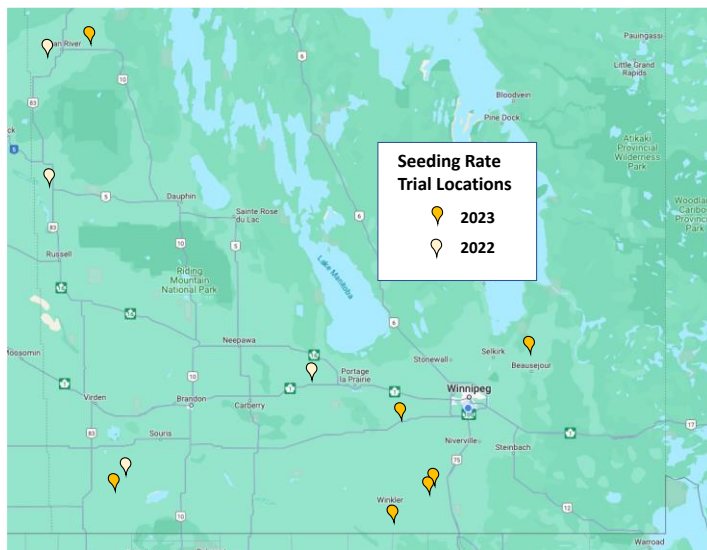
Research Question: Can Manitoba canola farms reduce their seeding rates without sacrificing yield to increase return on investment?

Treatments

1. Reduced Seeding Rate (75%)
2. Standard Seeding Rate (100%)
Farm Normal
3. High Seeding Rate (125%)

Trial Setup: Randomized complete block, each treatment was one equipment width x field length, with 4 replicates per locations (12 strips per location)

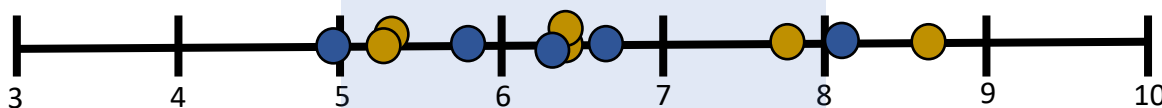
Data Collection: Plant Counts (4 leaf and Maturity), Grain Yield



Trial ID	RM	Plant Counts at 4-Leaf Stage			Change in Emergence from Standard Rate	
		Reduced	Standard	High	Reduced	High
		plants/ft ²			%	
SR_01 (2022)	Swan Valley West	5.1a ⁱ	5.3a	6.3a	+17	-3
SR_03 (2022)	Roblin	6.2b	6.4ab	6.8a	+16*	-9*
SR_04 (2022)	Brokenhead	5.1b	5.8b	7.4a	+21*	0
SR_05 (2022)	Two Borders	8.7b	8.7b	10.8a	+29	4
SR_06 (2023)	Minitonas-Bowsman	5.5b	6.4b	8.7a	+9	-5
SR_07 (2023)	Rhineland	6.1a	6.4a	7.4a	+23	-6
SR_08 (2023)	Grey	5.4b	6.6b	7.7a	+10	-7
SR_09 (2023)	Morris	4.5b	5.3b	6.6a	+7	0
SR_10 (2023)	Brenda-Waskada	8.3a	7.8a	9.1a	+32*	-5
SR_11 (2023)	Rhineland	6.1c	8.1b	11.1a	0	+8
SR_12 (2023)	Brokenhead	4.5a	4.9a	5.5a	+23	-9
COMBINED		5.9c	6.5b	8.0a	+17*	-1

ⁱSimilar lowercase letters in the same rows are not significantly different (p<0.05)
*indicates significantly (p-value < 0.05) different from standard seeding rate

Plant Establishment with Farm Standard Seeding Rate



	Emergence	Seeding Rate
Air Drill ●	51 – 89%	4 – 5 lbs./ac
Planter ●	89 – 100%	2.7 – 3.3 lbs./ac



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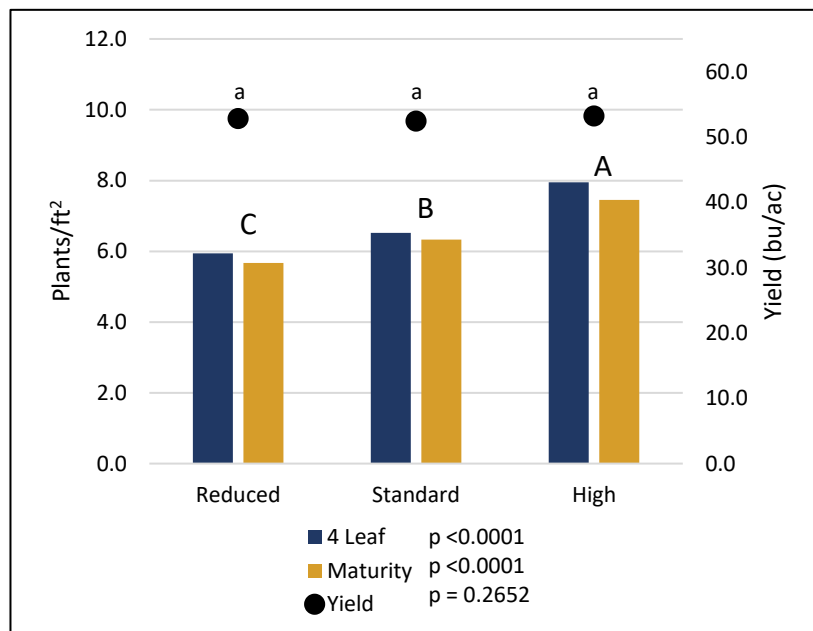
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Plant Establishment

- Overall, high seeding rates increased plant counts, while reduced seeding rates lowered plant counts.
- Reduced seeding rates increased emergence by 17% overall.
- Seeding rate treatment did not influence plant survival from 4 leaf to maturity (93-96%)
- Trials that use planters generally had higher emergence than trials with air drills, allowing for reduced seeding rates. The number of plants established were similar.

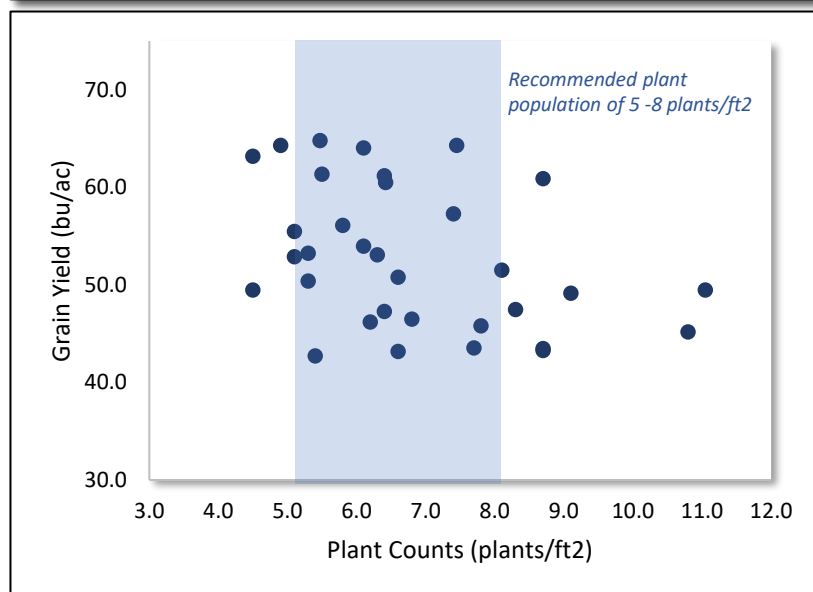
Grain Yield

- **Grain yield was not significantly influenced by seeding rate** in this trial
- There was no significant relationship between plant counts and grain yield.



Economic Considerations

- Canola seed SRP for 2024 is approximately \$1000/bag (targeted to seed 10 acres @ 60% emergence), will vary with variety and seed treatment.
- Preliminary trial results indicate that reducing seeding rate by 25% did not decrease yield and could reduce seed costs by up to \$250/bag or \$25/ac compared to the recommended seeding rate.



In Summary

- All results presented are preliminary as these trials will continue in the 2024 and 2025 field seasons.
- Manitoba canola farmers are successfully achieving the recommended plant population of 5-9 plants per square foot.
- With no significant influence of seeding rate or plant stand on grain yield (within the range tested) there is opportunity for farms to reduce seeding rates to increase profitability per acre.
- Additional considerations: risks associated with low plant populations outside of the scope of this trial include reduced competitiveness against field pests.



For full individual trial reports with all data collected please visit Canolagrowers.com