

Project Title: 2022 NWARC Statewide Spring Canola Variety Trial

Objective: To evaluate the agronomic performance of currently available or soon to be released varieties and breeding lines of canola in the many diverse climates of Montana

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Summary:

Twenty-six varieties of canola were planted on April 29th, 2022 and managed under rainfed conditions until harvest on September 8th, 2022 (Table 1). This trial was one of five that were conducted across the state on Montana (Figure 1). Eight seed companies contributed seed for the twenty-six varieties, with eight different herbicide resistance traits used for the varieties.

The average yield was 65.5 bu/A with the lowest at 53.6 bu/A for CP9919RR and the highest yield being 74.2 bu/A from InVigor L345PC. The highest oil content came from CP930RR at 50.4% and the lowest from NCC101S at 44.4%. The average oil content was 48.1%. The average height across all varieties was 47.0", with the tallest being BY 6217TF at 58.7" and the shortest, CP9919RR, at 31.7". The earliest flowering date was shared by NCC101S and CP9919RR at 175 julian, and the latest was BY 6217TF at 181 julian. The average julian flowering date was 178.

Table 1. Management Information

Seeding date: 4/29/2022	Field Location: X1
Julian date: 119	Harvest date:
Seeding rate:	Julian date:
Previous crop: Spring Wheat	Soil type: Creston Silt Loam
Herbicide: None	Tillage: Conventional
Insecticide: Lambda-CY 6/2/22	Soil residual nutrient (NO₃⁻¹, P, K lb/A): 129-32-254
Fungicide: None	Nutrient fertilizer applied (N, P₂O₅, K₂O lb/A): 50-25-40

Table 2. Agronomic performance of canola varieties

¹ Herb Resistance	Cultivar	Flowering Date	Plant Height (in)	Lodging (%)	Yield (bu/A)	TWT (lb/bu)	Oil Content (%)
CL	BY 5125CL	179	48.8	22.5	70.0	50.5	48.8
	DG280CLC	179	54.2	<u>10.0</u>	64.7	50.0	47.9
LL	CP7130LL	179	44.8	15.0	64.4	50.0	47.3
	CP7144LL	180	49.2	17.5	65.2	50.0	48.0
	CS4000 LL	177	40.1	37.5	60.7	50.5	48.9
	DG660LCM	179	47.8	22.5	59.8	49.8	48.4
	InVigor L233P	180	49.5	22.5	72.6	49.8	48.0
	InVigor L340PC	178	51.0	17.5	72.7	50.0	46.4
	InVigor L343PC	179	43.0	25.0	73.5	49.1	47.1
	InVigor L345PC	179	44.0	20.0	<u>74.2</u>	50.2	48.2
	InVigor L356PC	179	46.6	17.5	67.9	50.0	48.2
	None	NCC101S	<u>175</u>	45.5	22.5	64.3	49.9
NCC1825/8-S		176	44.5	27.5	68.5	50.4	48.1
RR	CP930RR	176	41.5	60.0	58.8	49.8	<u>50.4</u>
	CP9919RR	175	31.7	85.0	53.6	49.4	47.2
RR/TF/LL	InVigor						
	LR344PC	180	46.1	27.5	67.6	49.8	47.6
TF	BY 6211TF	179	42.3	30.0	68.0	<u>51.0</u>	48.2
	BY 6217TF	181	<u>58.7</u>	<u>10.0</u>	66.3	50.2	49.0
	CP9978TF	178	42.5	57.5	64.6	49.8	48.4
	CS2600 CR-T	178	41.1	22.5	62.9	50.4	49.4
	CS3000 TF	178	45.3	25.0	62.2	50.3	49.0
	DG760TM	178	51.0	<u>10.0</u>	62.4	50.4	48.2
	DG781TCM	178	51.6	15.0	63.1	49.6	48.5
	NC155 TF	177	50.8	<u>10.0</u>	60.9	50.6	48.1
	NC471 TF	177	56.4	12.5	66.2	50.6	48.1
	NC527CR TF	178	54.4	15.0	68.6	49.7	49.4
Mean		178.1	47.0	25.3	65.5	50.1	48.1
CV		0.8	8.0	44.4	7.7	0.9	1.5
Pr>F		<.001	<.001	<.001	<.001	<.001	<.001

Underlined = top-performer within a column; **Bold** = statistically equivalent to top-performer by Tukey pairwise comparisons ($p > 0.05$)

¹CL = Clearfield; LL = Liberty Link; RR = Roundup Ready; TF = TruFlex



Figure 1. Location of study sites throughout Montana