2024

Montana Statewide Spring Canola Variety Trial

MONTANA STATE UNIVERSITY
College of AGRICULTURE & MONTANA AGRICULTURAL EXPERIMENT STATION

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Montana Statewide Spring Canola Variety Trial 2024

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[1] **Cover photo credit:** Canola in bloom at the Central Agricultural Research Center, Moccasin, MT. Spring canola variety trial, 2023, Simon Fordyce.

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INTRODUCTION

The number of entries submitted to the Montana Statewide Spring Canola Variety Trial by commercial seed suppliers has increased steadily in recent years, reflecting a strong interest in agronomic performance data for canola in Montana. In 2024, performance of 35 canola hybrids was evaluated at four locations in the state (Moccasin, Sidney, Havre, and Kalispell) under both irrigated (Sidney) and dryland conditions (all other locations).

OBJECTIVES

The objective of the 2024 Montana Statewide Spring Canola Variety Trial was to evaluate the agronomic performance of available canola hybrids and breeding lines submitted by commercial entities at testing locations across the state. The information obtained from these trials is intended to provide canola growers in Montana with unbiased information regarding which canola hybrids are best suited to their specific growing conditions.

METHODS

In spring 2024, 35 canola varieties (*Brassica napus*) with five herbicide tolerance systems (including two cultivars with no herbicide tolerance) were submitted by ten sponsors (Table 1). Originally, 41 entries from 11 sponsors were scheduled for testing. However, seed from six cultivars did not arrive by the trial deadline. Ultimately, seed from 35 hybrids was distributed to five testing locations, (Figure 1). Testing was carried out by staff and faculty of Montana State University Agricultural Research Centers (ARCs). Testing sites included Central ARC (CARC) near Moccasin, Eastern ARC (EARC) near Sidney, Northern ARC (NARC) near Havre, Northwestern ARC (NWARC) near Kalispell, and Western Triangle ARC (WTARC) near Conrad. Drought conditions in Conrad forced abandonment of the WTARC trial, leaving only four final testing locations. Different combinations of hybrids were tested at each location, although 15 cultivars were tested at all four locations. Plots were seeded at 9 PLS/ft^2, with a goal of 6 established plants/ft^2. Seed was treated prior to seeding with Lumiderm® or Helix XTra® for control of flea beetle. Select varieties were also treated with Prosper® Evergol®. Varieties were grown in small plots ranging from 70 to 100 ft^2 and were replicated four times in a randomized complete block design. Hybrids were compared for plant count (plants per square feet; ft^{-2}), canopy height (inches), flowering date (Julian day of year), lodging (%), shattering (%), seed yield (pounds per acre; lb ac^{-1}), test weight (pounds per bushel; lb bu^{-1}), and oil content (%). Lodging and pod shatter were observed at Kalispell only and were ranked on a 0 to 100 scale. Plant counts were collected by counting seedlings within a known area (all locations but Sidney). Grain yield was adjusted to 8.5% moisture. Seeding and harvest dates, fertilizer and pesticide applications, row spacing, tillage systems, and field crop histories were recorded for each location (Table 2). Meteorological and soils data were also recorded (Table 3).

INTERPRETING RESULTS

Performance data are presented by location in Tables 4-8. The Least Significant Difference (LSD) values are presented, allowing pairwise comparisons between treatment means (varieties). If the difference between two treatment values within a column exceeds the LSD value, the entries are considered statistically different from one another for that particular response variable. If the difference does not exceed the LSD value, the entries are considered statistically equal. The LSD value is replaced with 'NS' for 'non-significant' when the probability value (P-Value) exceeds 0.05. In past years, LSDs were replaced with 'NS' when coefficients of variation (CVs) of seed yield exceeded 15% and were assumed to reflect yield data of

poor quality. However, in 2024, it was observed that CVs were elevated due to hot and dry conditions at pod fill rather than issues of data quality. Thus, in 2024, yield LSDs were reported 'as is' regardless of CVs. Within columns where P-Values are less than 0.05 and LSDs are not equal to 'NS', the value of the 'top performer' is bolded and appended with an asterisk. The variety or varieties with the highest plant count, canopy height, yield, test weight, and oil content and the lowest Julian flowering date, lodging, and shatter scores are considered top performers. If the difference between the value of the top performer(s) and that of given variety within the same column does not exceed the LSD, then the latter is bolded, indicating statistical equivalence to the top performer. That is, a bolded yield value, for example, is equivalent to a bolded and asterisked yield value, despite being arithmetically lower. Note that all hybrids at a given location were established in the same trial and weeds were managed uniformly across herbicide tolerance systems. In other words, imidazolinone herbicides were not used for in-crop weed control in plots containing Clearfield® hybrids; nor glufosinates for in-crop weed control on Liberty Link® hybrids; nor glyphosate on Roundup Ready® hybrids. Rather, glyphosate was applied for weed control either pre-plant or pre-emergence, depending on the location (Table 2) and weeds were controlled during the growing season by means of hand-weeding and/or alternative chemicals, not by means of herbicides paired to tolerance systems represented in the trial.

RESULTS & DISCUSSION

The following results are for informational purposes only. The presentation of data for the hybrids evaluated does not imply approval or endorsement by Montana State University.

Just 15 of the 32 cultivars were tested at all four locations (Table 1). Only these 15 cultivars are considered in comparisons discussed in the next paragraph.

Cultivars CP7130LL, CP9221LL, CP9978TF, L343PC, NCC101S, and StarFlex were among the top performers for plant count in 3 out of 3 trials where differences were detected. NCC101S was among the top performers for flowering date in 4 out of 4 trials. L350PC was among the top performers for canopy height in 3 out of 4 trials where differences were detected. No lodging differences were detected in any trial. L340PC exhibited the least amount of pod shatter at Kalispell, the only location where shattering was observed. COLETTE CL was a top performer for test weight at Kalispell and for oil content at 3 of 3 locations where differences were detected. L345PC was a top yielder at 4 out of 4 testing locations.

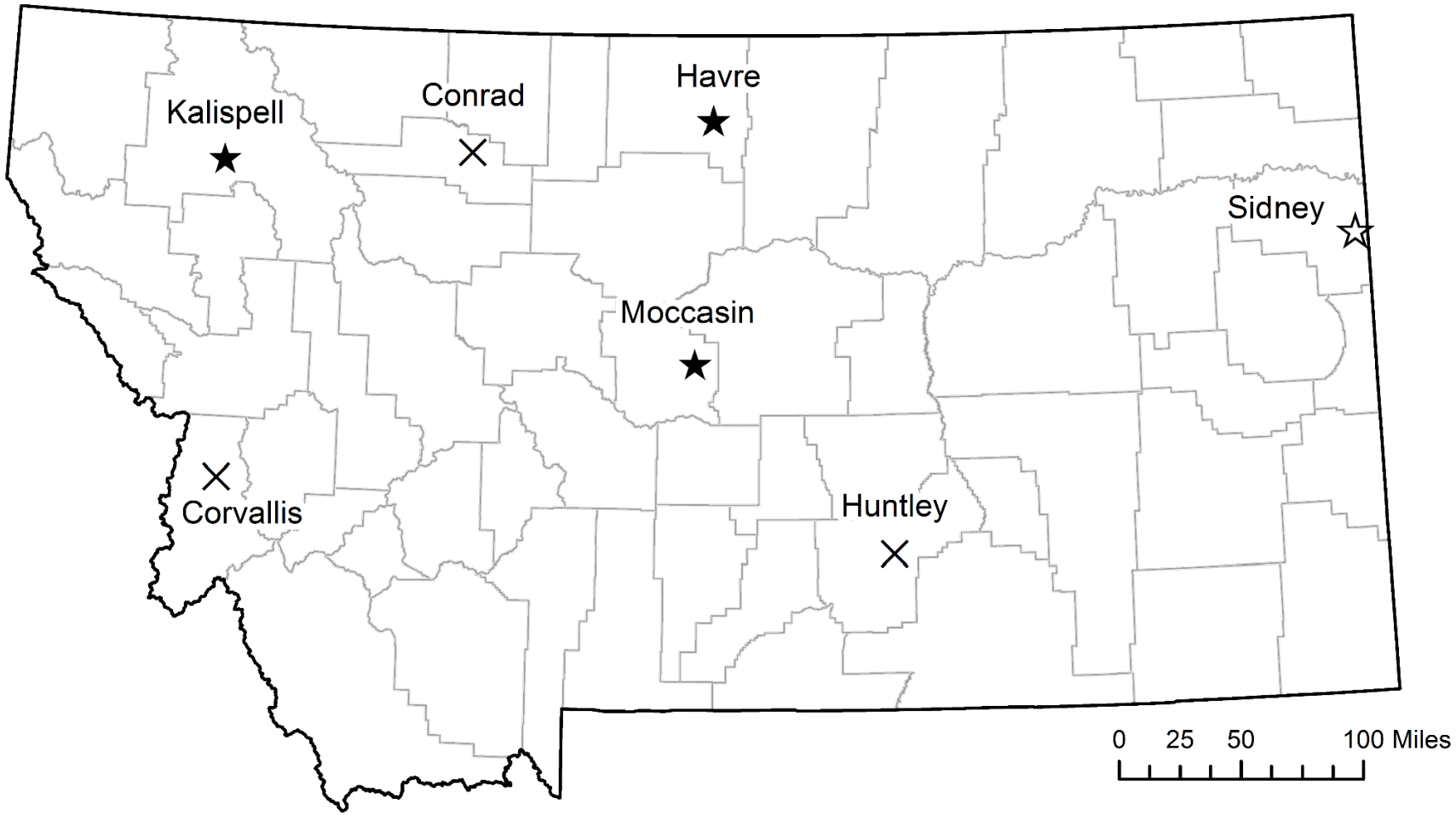
No shattering or lodging was observed at Sidney, Moccasin, or Havre. Plant count data were not collected at Sidney. Drought conditions forced abandonment of the Conrad trial and prevented replicated seed quality measurements at Moccasin. Seed provided for cultivar DL226031LL was likely not viable. Germination rates used in the seeding rate calculation for this cultivar were suspect, evidenced by DL226031LL's poor establishment across testing locations. It is probable that this cultivar's poor establishment negatively impacted its performance. Seed yield data are summarized for all locations in Table 4. Cultivar performance at each location is summarized in Tables 5-8.

FUTURE PLANS

With continued support from the canola industry and research center personnel, multi-location canola evaluations will continue in 2025.

TRIAL LOCATIONS

Figure 1. Spring canola variety testing locations in Montana. Trials were established in irrigated (☆) and dryland (★) systems in 2024. Testing has been successful at Huntley, Corvallis, and Conrad in past years (×), but not in 2024. [TOC]



CULTIVAR LIST

Table 1. 2024 cultivar list grouped by seed source, with shatter, herbicide, and disease resistance traits, as well as testing location. [TOC]

		Resistance[1,2]							
Source	Cultivar	Shatter	Herbicide	Disease	Moccasin	Havre	Sidney	Conrad	Kalispell
BASF	L340PC	+	LL	BL+CR	+	+	+	+	+
	L345PC	+	LL	BL+CR	+	+	+	+	+
	L343PC	+	LL	BL+CR	+	+	+	+	+
	L350PC	+	LL	BL+CR	+	+	+	+	+
	LR344PC	+	LL + TF	BL+CR	+	+	+	+	+
	LR354PC	+	LL + TF	BL+CR	+	+	+	+	+
BrettYoung Seeds	BY 6219TF	+	TF	BL+CR	+	+	+	-	-
Canterra Seeds	CS4000LL	+	LL	BL+CR	-	+	-	+	+
	CS26000 CR-T	+	TF	BL+CR	-	+	-	+	+
	CS3000 TF	+	TF	BL+CR	-	+	-	+	+
	CS3100 TF	+	TF	BL+CR	-	+	-	+	+
	CS3200 TF	+	TF	BL+CR	-	+	-	+	+
	CS3300 TF	+	TF	BL+CR	-	+	-	+	+
DL Seeds Inc.	DL226031LL	+	LL	BL+CR	+	+	-	-	+
	DL231851LL	+	LL	BL+CR	+	+	-	-	+
	DL231727LL	+	LL	BL+CR	+	+	-	-	+
	DL231558LL	+	LL	BL+CR	+	+	-	-	+
	DL231732LL	+	LL	BL+CR	+	+	-	-	+
	DL231958LL	+	LL	BL+CR	+	+	-	-	+
	DL226196TF	+	TF	BL+CR	+	+	-	-	+
	DL231946TF	+	TF	BL+CR	+	+	-	-	+
	DL231945TF	+	TF	BL+CR	+	+	-	-	+
	DL231963TF	+	TF	BL+CR	+	+	-	-	+
Nuseed	NC527CR TF	-	TF	CR	+	+	+	+	+
Nutrien Ag Solutions	DG 661 LCM	+	LL	BL+CR	-	+	+	+	+
	DG 760 TM	+	TF	BL	-	+	+	+	+
	DG 781 TCM	+	TF	BL+CR	-	+	+	+	+
Photosyntech	NCC101S	+	None	BL	+	+	+	+	+
Rubisco Seeds	COLETTE CL	+	CL	BL	+	+	+	+	+
	CHIP CL	+	CL	BL+CR	+	+	+	+	+
Star Specialty Seed	StarFlex	+	TF	BL+CR	+	+	+	+	+
WinField United	CP7130LL	+	LL	BL+CR	+	+	+	+	+
	CP7250LL	+	LL	BL+CR	+	+	+	+	+
	CP9978TF	+	TF	BL+CR	+	+	+	+	+
	CP9221TF	+	TF	BL+CR	+	+	+	+	+

[1]TF = TruFlex Roundup Ready; LL = Liberty Link; CL = Clearfield; LL + TF = Liberty Link + TruFlex; [2]BL = Blackleg; CR = Clubroot

MULTI- LOCATION SUMMARIES

Management Information

Table 2. 2024 spring canola variety trial management information by location. [TOC]

Management	Moccasin (CARC)	Sidney (EARC)	Havre (NARC)	Kalispell (NWARC)
Irrigation (inches)	none	3.32	none	none
Tillage	no-till	conventional	no-till	conventional
Row Spacing (inches)	12	9	12	6
Seeding Date	22-April-24	16-May-24	16-April-24	24-Apr-24
Harvest Date	14-Aug-24	16-Aug-24	2-Aug-24	9-Sep-24
Harvest Type	direct cut	direct cut	direct cut	direct cut
Previous Crop (2023)	chem fallow	wheat	chem fallow	spring wheat
Previous Crop (2022)	spring wheat	sugar beet	spring barley	spring barley
Fertilizer	100-15-10-5	70-26-0-0	50-15-0-20	41-42-25
Pesticide	RT3 pre-emergence @ 16 floz/ac; Mustang Maxx seedling @ 3 floz/ac; Stinger @ 4 floz/ac 3-lf; Section Three @ 5 floz/ac 3-lf	Sonalan HPF @ 32 floz/ac preplant; Mustang Maxx @ 4 floz/ac seedling	RT3 @ 22 floz/ac preplant; Mustang Max @ 4 floz/ac 4-lf; Mustang Max @ 4 floz/ac bolting/pre-flower; Mustang Max @ 4 floz/ac late podding/seed set	Triflurex HFP pre-plant; Crusader 1EC @ 3.7 floz/ac 3-lf
Pests	early season flea beetle (controlled); field pennycress pressure (hand weeded)	early season flea beetle (controlled)	flea beetle throughout the season (controlled)	early season flea beetle (controlled); field pennycress pressure (hand weeded)
Note	Hail damage early flowering, partial recovery	-	-	-

Meteorological and Soils Information

Table 3. 2024 soil and meteorological data by location. [TOC]

Meteorological and Soils	Moccasin (CARC)	Sidney (EARC)	Havre (NARC)	Kalispell (NWARC)
2024 Precip. Apr thru Aug (inches)	7.96	6.42	9.83	9.68
Long-Term Avg. Precip. Apr thru Aug (inches)	8.79, 21-yr	9.45 in, 75-yr	7.94, 108-yr	9.76 in, 44-yr
Last Killing Frost in Spring (< 32°F)	31-May-24	4-May-24	4-May-24	19-May-24
First Killing Frost in Fall (< 32°F)	3-Oct-24	4-Oct-24	3-Oct-24	30-Sep-24
Frost-free Period (days)	125	153	152	134
2-Wk Avg. Air Temp. Beginning at First Flower (°F)	57.5	-	60.2	68.6
Max Summer Temperature (°F)	98.8	102.4	104.3	96.0
Date of Max Summer Temperature	24-Jul-24	24-Jul-24	25-Jul-24	22-Jul-24
Soil Type	Danvers-Judith clay loam	Savage silty clay	Telstad clay loam	Creston silt loam
Elevation (ft)	4250	1949	2698	2910

Yield Summary

Table 4. 2024 seed yield summary (lb/ac) by location. [TOC]

Cultivar	Moccasin (CARC)	Sidney (EARC)	Havre (NARC)	Kalispell (NWARC)
BY 6219TF	318	1531	1838	-
CHIP CL	325	1589	2101	1440
COLETTE CL	460	1235	1935	1157
CP7130LL	**496**	**2037**	2254	1793
CP7250LL	**466**	1468	2222	1596
CP9221TF	387	**2032**	2381	1699
CP9978TF	456	1617	2086	1767
CS26000 CR-T	-	-	**2606**	**2419***
CS3000 TF	-	-	2281	1799
CS3100 TF	-	-	1673	1590
CS3200 TF	-	-	2183	1812
CS3300 TF	-	-	2123	1810
CS4000LL	-	-	2294	1938
DG 661 LCM	-	1795	2271	1838
DG 760 TM	-	1654	2064	1823
DG 781 TCM	-	**2034**	**2554**	1813
DL226031LL	153	-	625	1179
DL226196TF	447	-	1702	1287
DL231558LL	**538**	-	2208	1631
DL231727LL	408	-	1723	1142
DL231732LL	356	-	1983	1328
DL231851LL	**494**	-	2040	1591
DL231945TF	338	-	2093	1282
DL231946TF	355	-	1715	1322
DL231958LL	344	-	1427	1168
DL231963TF	346	-	1780	1125
L340PC	348	1794	2275	**2218**
L343PC	458	1726	**2513**	1983
L345PC	**565**	**1987**	**2732***	**2038**
L350PC	**463**	1748	2238	**2160**
LR344PC	428	**2260***	**2684**	1910
LR354PC	**559**	1688	**2502**	**2012**
NC527CR TF	**552**	1616	2368	1688
NCC101S	**642***	1581	2271	1686
StarFlex	424	1671	2261	1892
Mean	428	1740	2114	1675
CV	29.8	11.3	8.957	17.65
LSD	180	278.8	265.6	414.7
Pr(>F)	0.001	<0.001	<0.001	<0.001

Bold* = top performer within a column; **Bold** = equivalent to top performer within a column

INDIVIDUAL LOCATION SUMMARIES

Central Ag Research Center, Moccasin, MT

Table 5. 2024 Spring canola variety trial, CARC, Moccasin, MT. [TOC]

Cultivar	Plant Count (ft^{-2})	Flower Date (julian)	Canopy Height (inches)	Lodging (%)	Pod Shatter (%)	[1]Test Weight ($lb\ bu^{-1}$)	[1]Oil Content (%)	Seed Yield ($lb\ ac^{-1}$)
BY 6219TF	**5.5**	172	**41.0**	0.0	0.0	48.3	33.9	318
CHIP CL	4.7	172	37.5	0.0	0.0	47.6	35.0	325
COLETTE CL	**5.2**	175	38.0	0.0	0.0	49.8	38.1	460
CP7130LL	**5.3**	173	39.5	0.0	0.0	48.6	34.7	**496**
CP7250LL	**5.6**	175	35.2	0.0	0.0	50.1	34.7	**466**
CP9221TF	**4.9**	172	36.8	0.0	0.0	46.3	33.3	387
CP9978TF	**5.8**	173	36.0	0.0	0.0	45.3	33.3	456
DL226031LL	0.9	173	35.5	0.0	0.0	50.2	ND	153
DL226196TF	4.7	176	**40.0**	0.0	0.0	49.7	35.0	447
DL231558LL	**5.4**	**171**	38.8	0.0	0.0	45.2	37.2	**538**
DL231727LL	**5.0**	177	**40.0**	0.0	0.0	51.0	34.4	408
DL231732LL	4.3	172	35.0	0.0	0.0	49.4	35.4	356
DL231851LL	**5.5**	173	**42.2**	0.0	0.0	49.4	34.2	**494**
DL231945TF	**5.2**	175	**40.0**	0.0	0.0	46.1	35.9	338
DL231946TF	4.2	180	39.5	0.0	0.0	48.8	34.9	355
DL231958LL	**3.6**	172	**43.5***	0.0	0.0	47.9	34.2	344
DL231963TF	4.6	178	39.2	0.0	0.0	48.3	36.0	346
L340PC	**6.2**	173	37.0	0.0	0.0	41.5	34.4	348
L343PC	**5.5**	174	37.8	0.0	0.0	44.2	36.0	458
L345PC	**6.3***	176	39.0	0.0	0.0	46.0	35.4	**565**
L350PC	**6.1**	176	**40.5**	0.0	0.0	47.4	34.8	**463**
LR344PC	**5.4**	174	39.8	0.0	0.0	47.6	35.6	428
LR354PC	4.8	175	38.5	0.0	0.0	48.4	35.3	**559**
NC527CR TF	**5.6**	172	36.5	0.0	0.0	46.9	35.6	**552**
NCC101S	**5.1**	**170***	37.8	0.0	0.0	44.9	32.6	**642***
StarFlex	**6.0**	176	37.2	0.0	0.0	46.5	35.9	424
Mean	5.1	174	38.5	0.0	0.0	47.5	35.0	428
CV	20	0.650	6.82	-	-	4.53	3.35	29.8
LSD	1.4	1.59	3.50	-	-	ND	ND	180
Pr(>F)	<0.001	<0.001	0.001	-	-	ND	ND	0.001

Bold* = top performer within a column; **Bold** = equivalent to top performer within a column
NS = Not significant; ND= No Data
[1]Insufficient seed to replicate individual plots, i.e., seed from multiple plots was combined to take a single reading

Eastern Ag Research Center, Sidney, MT

Table 6. 2024 Spring canola variety trial, EARC, Sidney, MT. [TOC]

Cultivar	Plant Count (ft^{-2})	Flower Date (julian)	Canopy Height (inches)	Lodging (%)	Pod Shatter (%)	Test Weight ($lb\ bu^{-1}$)	Oil Content (%)	Seed Yield ($lb\ ac^{-1}$)
BY 6219TF	ND	182	48.2	0.0	0.0	52.5	43.6	1531
CHIP CL	ND	182	44.7	0.0	0.0	53.4	44.0	1589
COLETTE CL	ND	185	48.9	0.0	0.0	53.5	**45.7**	1235
CP7130LL	ND	183	48.5	0.0	0.0	53.7	44.4	**2037**
CP7250LL	ND	185	49.2	0.0	0.0	53.4	43.9	1468
CP9221TF	ND	180	41.2	0.0	0.0	53.5	44.6	**2032**
CP9978TF	ND	182	43.8	0.0	0.0	51.4	43.8	1617
DG 661 LCM	ND	182	47.0	0.0	0.0	53.3	**45.7**	1795
DG 760 TM	ND	181	43.3	0.0	0.0	53.0	44.2	1654
DG 781 TCM	ND	182	46.4	0.0	0.0	52.5	**46.4***	**2034**
L340PC	ND	183	47.0	0.0	0.0	53.6	43.0	1794
L343PC	ND	183	45.2	0.0	0.0	53.0	43.8	1726
L345PC	ND	183	**52.8***	0.0	0.0	52.3	43.2	**1987**
L350PC	ND	187	**51.3**	0.0	0.0	52.8	**45.2**	1748
LR344PC	ND	183	48.9	0.0	0.0	53.5	**45.2**	**2260***
LR354PC	ND	185	**52.1**	0.0	0.0	53.1	43.9	1688
NC527CR TF	ND	182	43.2	0.0	0.0	52.9	44.2	1616
NCC101S	ND	**177***	39.5	0.0	0.0	52.5	38.7	1581
StarFlex	ND	182	44.3	0.0	0.0	52.4	**46.3**	1671
Mean	ND	183	46.6	0.0	0.0	52.9	44.2	1740
CV	ND	0.326	4.73	-	-	2.0	2.73	11.30
LSD	ND	0.843	3.13	-	-	NS	1.71	278.8
Pr(>F)	ND	<0.001	<0.001	-	-	0.309	<0.001	<0.001

Bold* = top performer within a column; **Bold** = equivalent to top performer within a column
NS = Not significant; ND = No Data

Northern Ag Research Center, Havre, MT

Table 7. 2024 Spring canola variety trial, NARC, Havre, MT. [TOC]

Cultivar	Plant Count (ft^{-2})	Flower Date (julian)	Canopy Height (inches)	Lodging (%)	Pod Shatter (%)	Test Weight ($lb\ bu^{-1}$)	Oil Content (%)	Seed Yield ($lb\ ac^{-1}$)
BY 6219TF	3.0	**164**	42.1	0.0	0.0	52.6	42.2	1838
CHIP CL	**5.3**	**164**	43.4	0.0	0.0	52.4	41.0	2101
COLETTE CL	4.4	168	**45.0**	0.0	0.0	52.8	**42.8**	1935
CP7130LL	**4.8**	166	41.5	0.0	0.0	**54.0***	40.2	2254
CP7250LL	3.8	167	42.1	0.0	0.0	53.0	40.2	2222
CP9221TF	**4.8**	165	39.5	0.0	0.0	53.6	39.2	2381
CP9978TF	**6.7**	**164**	39.0	0.0	0.0	52.6	42.1	2086
CS26000 CR-T	**6.3**	**164**	42.0	0.0	0.0	53.0	**43.2**	**2606**
CS3000 TF	4.0	**164**	37.7	0.0	0.0	53.0	41.4	2281
CS3100 TF	4.3	168	41.1	0.0	0.0	52.4	42.1	1673
CS3200 TF	**6.8***	166	42.6	0.0	0.0	**53.7**	42.5	2183
CS3300 TF	4.3	**164**	41.4	0.0	0.0	53.1	42.5	2123
CS4000LL	**4.7**	166	43.6	0.0	0.0	**54.0***	41.1	2294
DG 661 LCM	3.6	166	42.9	0.0	0.0	53.0	**42.8**	2271
DG 760 TM	3.3	166	41.3	0.0	0.0	52.8	41.8	2064
DG 781 TCM	**5.1**	**164**	40.5	0.0	0.0	51.9	**44.2***	**2554**
DL226031LL	1.2	169	42.1	0.0	0.0	52.5	34.4	625
DL226196TF	4.2	168	**46.8**	0.0	0.0	53.0	41.5	1702
DL231558LL	**4.7**	**164**	38.9	0.0	0.0	52.6	**43.4**	2208
DL231727LL	2.5	168	**46.2**	0.0	0.0	52.7	42.0	1723
DL231732LL	4.6	**164**	40.5	0.0	0.0	51.9	**42.9**	1983
DL231851LL	3.8	165	**45.9**	0.0	0.0	**53.9**	40.1	2040
DL231945TF	3.4	168	**48.3***	0.0	0.0	53.3	41.0	2093
DL231946TF	3.3	168	42.5	0.0	0.0	52.8	41.0	1715
DL231958LL	3.7	168	**47.6**	0.0	0.0	53.2	39.7	1427
DL231963TF	2.6	168	42.8	0.0	0.0	52.2	42.2	1780
L340PC	4.6	165	39.6	0.0	0.0	53.1	40.5	2275
L343PC	**5.0**	**164**	38.2	0.0	0.0	53.0	41.4	**2513**
L345PC	3.9	**164**	41.6	0.0	0.0	53.1	41.5	**2732***
L350PC	4.1	170	44.5	0.0	0.0	52.4	41.5	2238
LR344PC	4.6	165	42.4	0.0	0.0	52.5	42.0	**2684**
LR354PC	**6.2**	166	40.8	0.0	0.0	52.4	41.7	**2502**
NC527CR TF	4.2	**164**	39.5	0.0	0.0	51.8	**42.8**	2368
NCC101S	**5.7**	**163***	38.5	0.0	0.0	53.5	39.0	2271
StarFlex	**6.2**	**164**	39.0	0.0	0.0	52.5	**43.3**	2261
Mean	4.4	166	42.0	0.0	0.0	52.9	41.5	2114
CV	35	0.464	5.69	-	-	0.627	2.78	8.957
LSD	2.1	1.08	3.35	-	-	0.465	1.61	265.6
Pr(>F)	<0.001	<0.001	<0.001	-	-	<0.001	<0.001	<0.001

Bold* = top performer within a column; **Bold** = equivalent to top performer within a column

Northwestern Ag Research Center, Kalispell, MT

Table 8. 2024 Spring canola variety trial, NWARC, Kalispell, MT. [TOC]

Cultivar	Plant Count (ft^{-2})	Flower Date (julian)	Canopy Height (inches)	Lodging (%)	Pod Shatter (%)	Test Weight ($lb\ bu^{-1}$)	Oil Content (%)	Seed Yield ($lb\ ac^{-1}$)
CHIP CL	**13.2**	**178**	49.5	25	24	49.5	47.7	1440
COLETTE CL	**12.2**	180	**56.0**	20	34	**50.3**	**48.5**	1157
CP7130LL	**12.0**	**178**	49.8	20	4.1	50.0	46.9	1793
CP7250LL	**12.2**	179	48.4	25	**1.0**	49.9	46.2	1596
CP9221TF	**15.5***	**178**	41.4	25	2.8	49.9	46.8	1699
CP9978TF	**11.8**	**178**	44.8	20	**0.4**	50.1	46.0	1767
CS26000 CR-T	**14.2**	**178**	46.9	35	**1.8**	**50.5**	**49.4***	**2419***
CS3000 TF	**13.8**	**178**	44.3	20	3.0	50.2	**48.6**	1799
CS3100 TF	11.0	181	51.8	20	6.2	49.1	47.9	1590
CS3200 TF	**13.5**	180	53.0	20	**0.9**	**51.5***	47.2	1812
CS3300 TF	**12.0**	**177***	49.6	25	**0.8**	**50.4**	**48.2**	1810
CS4000LL	**14.2**	**178**	49.2	20	3.8	50.0	**49.3**	1938
DG 661 LCM	**13.2**	**178**	50.5	20	8.0	**50.3**	**48.5**	1838
DG 760 TM	9.50	**178**	47.2	20	7.4	**50.5**	47.3	1823
DG 781 TCM	11.5	**178**	48.4	20	17	49.8	**49.3**	1813
DL226031LL	6.20	180	51.4	35	**1.7**	**51.1**	46.6	1179
DL226196TF	**12.2**	180	**56.4**	20	**2.0**	**50.6**	47.1	1287
DL231558LL	**12.0**	**178**	51.8	25	**1.2**	49.8	**48.5**	1631
DL231727LL	**13.0**	181	**56.0**	25	**1.0**	**50.5**	46.4	1142
DL231732LL	11.0	**178**	52.9	25	**1.1**	49.7	**48.5**	1328
DL231851LL	10.5	**178**	51.8	20	3.5	**51.4**	46.3	1591
DL231945TF	**13.0**	181	**57.0***	25	2.3	49.7	44.9	1282
DL231946TF	11.0	180	**54.0**	20	**1.2**	49.7	47.2	1322
DL231958LL	10.0	179	**56.0**	20	**1.1**	**51.4**	46.9	1168
DL231963TF	10.2	180	**56.9**	20	**1.6**	49.0	47.6	1125
L340PC	**13.8**	180	47.2	25	**0.2***	49.0	46.4	**2218**
L343PC	**13.2**	179	46.4	20	**2.0**	48.8	46.7	1983
L345PC	9.80	179	49.4	20	**0.4**	49.6	46.9	**2038**
L350PC	**13.2**	180	**54.4**	20	4.2	50.0	47.0	**2160**
LR344PC	10.0	180	52.1	20	**0.7**	49.6	46.9	1910
LR354PC	10.5	179	51.9	20	**1.2**	50.0	**48.6**	**2012**
NC527CR TF	10.8	**178**	45.9	25	8.1	48.1	47.4	1688
NCC101S	**13.2**	**178**	43.6	20	**1.1**	49.2	43.1	1686
StarFlex	**12.0**	**178**	44.3	25	**0.6**	48.6	47.9	1892
Mean	11.9	179	50.3	23	4.4	49.9	47.3	1675
CV%	23.0	0.462	5.12	30	40	1.71	1.85	17.65
LSD	3.70	1.00	3.00	NS	0.87	1.20	1.20	414.7
Pr(>F)	0.023	<0.001	<0.001	0.114	<0.001	<0.001	<0.001	<0.001

Bold* = top performer within a column; **Bold** = equivalent to top performer within a column; NS = Not significant