

Title: Statewide Canola Variety Evaluation, Kalispell – 2016

Objective: To evaluate canola varieties for agronomic performance in environments and cropping systems representative of northwestern Montana.

Results:

Twenty-five cultivars were evaluated using a randomized complete block with four replications. Seeding rate was determined using the following equation:

$$(10 \text{ plants/sqft} \times 9.6 \times \text{thousand kernel weight}) / 80\% \text{ survival.}$$

Significant differences were observed in flowering date, plant height, percent lodging, yield, percent oil, and test weight. Flowering date averaged 180 days (June 28) and spanned a 4 day period that ranged from 177 to 181 days. Plant height averaged 52.1 inches and ranged from 45.7 inches for Arriba to 57.8 inches for InVigor 5440. Lodging averaged 25.2% ranging from 2.8% for C1516 to 55.0% for Arriba. Yields averaged 41.5 bu/A and ranged from 25.0 bu/A for Arriba to 56.6 bu/A for HyClass 972. Oil content averaged 49.3%, ranging from 46.1% for NCH13G046 to 50.9% for HyClass 970. Test weights averaged 49.4 lb/bu and ranged from 47.7 lb/bu for C5522 to 51.1 lb/bu for NCH13G046.

Summary:

HyClass 972 was the highest yielding variety and had an oil content of 49.6 percent. Based on the LSD value for yield, 3 varieties (InVigor L130, InVigor L140P, and G49720) were statistically equivalent to the highest yielding variety, HyClass 972.

Table 1. Materials and Methods.

Seeding Date:	5/3/2016	Harvest Date:	9/14/2016
Julian Date:	124	Julian Date:	258
Seeding Rate:	10 plnt/sqft 6" rows	Soil Type:	Creston SiL
Previous Crop:	Barley	Soil Test:	116-22-250-46
Tillage:	Conventional	Fertilizer:	125-30-30-20
Herbicide:	PPI: Trust 2 pt/A	Insecticide:	Warrior II 1.92floz/A
Herbicide:	Post: Stinger 1/3pt/A	Fungicide:	Endura 6 oz/A

Table 2. Agronomic data from the statewide canola variety trial, Kalispell, MT - 2016.

Cultivar	Herbicide system	PLNT sqft	FLWR Julian	HT in	LOD %	SHTTR %	YLD ¹ bu/A	OIL ¹ %	TWT ¹ lb/bu
HyClass 972	RR	14.9	180	53.3	5.8	1.0	56.6	49.6	50.2
InVigor L130	LL	10.5	180	55.3	7.8	1.0	52.6	49.1	49.6
InVigor L140P	LL	14.1	180	50.7	25.5	1.0	51.2	49.1	48.9
G49720	RR	16.3	180	50.1	30.5	1.0	49.8	48.7	49.6
InVigor 5440	LL	17.3	180	57.8	10.0	1.0	47.1	49.1	50.0
G35153	RR	10.6	179	49.4	37.5	1.0	46.5	49.2	49.4
HyClass 970	RR	14.3	180	51.7	17.0	1.0	45.6	50.9	49.0
C1511	SU	12.7	180	51.9	14.3	1.0	45.0	48.5	49.0
C1516	SU	13.3	181	55.7	2.8	1.3	44.1	47.9	50.6
C5507	SU	16.7	180	54.2	20.0	1.0	43.9	50.0	48.0
DKL70-10	RR	15.3	180	51.6	31.3	1.0	43.6	49.9	49.0
HyClass 930	RR	15.2	179	49.3	36.3	1.0	43.5	50.5	48.9
HyClass 955	RR	16.7	179	47.4	31.3	1.0	43.3	49.8	49.3
C5522	SU	15.1	180	55.6	12.5	1.0	42.9	50.7	47.7
BY16-768	RR	13.9	180	54.6	8.8	1.0	41.7	50.1	48.1
6080 RR	RR	15.2	180	54.4	13.8	1.0	40.3	49.9	49.0
6074 RR	RR	15.7	180	54.5	12.5	1.5	38.9	50.1	49.9
G49773	RR	14.8	180	51.1	47.5	1.0	37.1	50.1	49.4
GT50	RR	19.3	180	49.7	16.8	1.0	35.7	48.0	50.3
Empire	none	15.5	179	50.2	41.3	1.0	35.5	48.1	50.1
NCH13G046	RR	13.8	180	49.9	52.5	1.0	34.6	46.1	51.1
DKL30-20	RR	15.9	177	52.0	41.3	2.3	31.3	50.7	49.4
Cara	none	13.4	180	51.5	40.0	1.0	31.0	48.1	49.5
C5513	SU	16.1	181	56.0	18.8	1.0	30.3	49.9	49.8
Arriba	none	15.7	179	45.7	55.0	1.0	25.0	48.0	49.7
Mean		14.9	180	52.1	25.2	1.1	41.5	49.3	49.4
CV		25.2	0.2	6.5	46.8	40.3	15.8	2.6	0.9
LSD		ns	0.6	4.8	16.6	ns	9.3	1.8	0.6
Pr>F		0.4287	0.0001	0.0002	0.0001	0.0923	0.0001	0.0001	0.0001

PLNT: plant, FLWR: 50% flowering, HT: height, LOD: lodging, SHTTR: shatter, YLD: yield, TWT: test weight, ns: nonsignificant.

¹ adjusted to 8% moisture.

RR: roundup ready, LL: liberty link, SU: sulfonyleurea.